THE

SOUTHERN AGRICULTURIST.

DECEMBER, 1834.

PART I.

ORIGINAL COMMUNICATIONS.

ART. LXX.—*On the Protection and Repairs of Embankments; by* OBSERVER.

RICE planters have suffered more severely than usual, this year and the last, by the breaking of their banks, and the suggestions now offered to prevent such misfortunes as far as possible, will, it is hoped, be considered dispassionately. The people of Holland have probably more experience in banking and reclaiming land, than any other that we know of. They are more deeply interested than others, for their lives, as well as fortunes, are at stake on the preservation of their dikes. They are well known to be a frugal, observing, industrious people, and we should avail ourselves of their experience and practice as far as possible.

As earth suitable for embankments is scarce with them, and the conveyance of it to the required place, tedious and difficult, they take every precaution to prevent that earth, when put down, from being swept off by the tides. For this purpose, their chief reliance is on canvass, so arranged as to turn the current from the new bank, or by being spread over, cover it from the friction of the water. An arrangement of this kind, would not only preserve the work done, but save the ditches from being filled by the

loose earth carried off in the water. Suppose ten yards of new bank to have been raised in a tide, it is proposed to protect that from the current, by a strip of an old sail, supported by stakes, in a line with the new work, having the lower edge of the canvass turned inwards, and covered with earth to keep it down. By this, the work done would not only be preserved, but the hands might continue their work during the ebb and flow of the tide, for the new bank, being merely overflowed, is not injured by the water, unless there is a current to carry off the earth. Their next attention is to the choice of earth. It is worse than labour lost to use the light, fibrous, spongy substance obtained on the surface of the marsh and rush lands; and it is inexpedient to use clay or mud alone. Mud and clay when unmixed with highland earth, would by their contraction, cause cracks across the bank every ten or fifteen yards—cracks concealed by the mouldering of the upper surface, but not closed or prevented by it. Highland or dry earth is indispensable to the formation of a secure bank, and should be always provided even if brought from a distance. The writer of this is not correctly informed, whether the highland earth is most useful when incorporated with the mud or clay; or placed alternately with them in sections transversely, to prevent fissures from the contraction of the mud; or placed in a vertical line to the top of the bank, and the sides lined with mud. This, however, is certain, that the clods should all be broken, by what is called "puddling," that is, reduced to as uniform a mass of pulverized earth as possible, and then trampled and pestled so as to be rendered uniformly compact. Puddling is indispensably necessary in all deep embankments, as in creeks and laying down trunks. It is equally necessary in such places, that the length of the trunk and width of the bank should increase in proportion with the height of the bank. In ordinary depths, the trunk should be three times longer than the bank is high, and in proportion to the depth of the gully or creek, should be increased to four or five times greater, than a vertical line, from the bottom of that gully to the summit of the bank. In all this filling, every spadefull of earth should be puddled; for want of it, the blowing up of trunks has become common; bracing and piling are insufficient in such places without breadth of base and puddling.

If care is necessary in the construction of banks, how much more necessary is it, by diligent inspection and by method, to prevent the breaking of these banks. The Hollanders have a regular system or police for the prevention of such evils. Every inhabitant of the neighbouring villages above a certain age, is not only compelled to work on the embankments when called upon, but especially bound to be always provided with a bag of dry earth, and to convey that at a given signal, promptly to a line of bank designated, there to work under certain superintendents, until the danger is over. On these occasions, great use is made of the canvass: the earth is deposited from the bags at the low places to prevent the overflow, and if still in danger, the bags and other canvass are spread to prevent the gullying of the bank, from the friction of the water. The water pours over the canvass with little or no injury to the bank, without such a covering it would quickly be cut asunder. Banks are very seldom broken by the pressure of water; they are much more generally injured from being overflowed by tides, or undermined by a leak through some crack; both of which may be easily prevented.

A gang of negroes, is in fact, a village of farmers, always organized under their respective drivers, and these under their overseers; they may be brought together instantly, by some signal, and be made to bring with them their blankets, and each a basket of dry earth. The trunk-minders are the guard on the bank, to whom may be added the coopers and carpenters, and in times of danger, any others of the most trusty negroes. The dry earth and blankets may be spread where necessary, and where a leak is discovered, it may be stopped for the time by driving in staves and boards, until the defective part can be cut out, and replaced by dry earth well rammed into the gap.

OBSERVER.

ART. LXXI.—*Some account of the Alluvial Lands of the Mississippi and Red Rivers; by* J. HAMILTON COUPER; *accompanied by an Analysis of a Sample of Soil, taken from the sugar estate of* Mr. JOHN PENNY, *at Willow-Island, Louisiana; by* CHARLES U. SHEPARD, *Lecturer on Natural History in Yale College; and an Analysis of Soil from Bayou Robert, near Alexandria, Louisiana; by* J. HAMILTON COUPER.

"Hopeton, near Darien, October 12, 1834.

Dear Sir,—Mr. C. U. Shepard, of Yale College, has recently sent to me a statement of an analysis, that he has made, of a sample of soil from one of the sugar estates on the banks of the Mississippi: and has kindly permitted me to offer it to you, for insertion in the *Southern Agriculturist.* Believing that any thing that can add to a knowledge of the alluvial lands of the great Western valley of our country, will prove interesting to your readers, I avail myself with pleasure of the permission that has been granted to me. I have also been induced, from the same motive, to send you an account of an analysis that I have made of a soil from the Red River.

The alluvial lands of the Mississippi and Red River have acquired such celebrity, for their great richness, that the traveller on visiting them, naturally expects to find, in the dark colour of the soil, the usual indication of that abundance of vegetable and animal substances, which he has been accustomed to regard as indispensable to great fertility. His first impression is, therefore, one of disappointment when, instead of a black or deep brown soil, he meets on the Mississippi, with one of a light greyish brown, nearly resembling in colour the hippo of the shops. A further examination, while it confirms the first impression that the well established fertility of these lands is not owing to an unusual proportion of vegetable matter, satisfactorily explains the causes of it. Of these, the first and most important is, the happy constitution of the earthy matter; which is fine but not cohesive—close, and yet friable and permeable to moisture: a peculiarity occasioned by the small proportion of clay and lime, and the extremely minute state of division of the sand.

The second cause of fertility consists in the homogeneity of the soil, and in its great depth. In going up the river during the low stages of the water, an opportunity occurs of observing the successive strata of the soil, to the depth of from ten to forty feet, as the traveller ascends from New-Orleans to Vicksburg. With the exception of a few inches of the immediate surface, which is of a slighter shade of brown, the remainder is found to be very nearly of the same colour and constitution down to the edge of the water. Throughout the whole mass, it is soft and crumbling, although close and compact to the eye. The roots of trees that are exposed to observation, extend perpendicularly and deeply into the soil, and expand but little in a superficial or horizontal direction.

The large proportion of silicious matter is also in happy accordance with the inclination of the surface of the land, which is so small from the river to the inundated line of the back swamps, that a more retentive and tenaceous soil would probably be too cold and wet.

The soil of the alluvion of the Red River, to a superficial examination, differs from that of the Mississippi; almost exclusively in the colour, which, owing to the large proportion of iron that it contains, is of a deep reddish brown. It has the same peculiarities of homogeneity, depth, friability and minute division of the siliceous matter. From a comparison of Mr. Shepard's analysis with my own, it appears that the proportions of siliceous sand, clay and vegetable matter are very nearly the same in both: and that the principal difference consists in a larger proportion of iron, and a smaller one of lime and magnesia in the soil of the Red River, than in that of the Mississippi.

The analysis sent to you, show, of course, the precise character of the soils of the immediate spots only, from which they were taken. In ascending these rivers, or in approaching nearer to their banks, a larger proportion of sand, and of a coarser quality will be found: and, on the contrary, in descending towards their mouths, or in receding from their banks, the clay will increase in quantity and the siliceous matter become finer.

An impression very generally exists, that the early vegetation and maturity of the cotton and other plants, cultivated on the alluvial lands of the Red River, are in a great measure owing to the stimulating effects of the salts

which they contain. So far as respects the soil submitted to examination by me, this impression would appear to be erroneous, whatever may be the case with them on the immediate banks of the river, and subject to inundation. The probability is, however, that the early and luxuriant vegetation for which the Red River lands are celebrated, are attributable to the depth and friability of the soil—to the high temperature resulting from its dark colour—and to the warmth of the water of the river, occasioned by its entire course being nearly on the same parallel of latitude. In these two last respects, the alluvion of the Red River, has a material advantage over that of the Mississippi.

Most respectfully, I am, dear Sir, your obd't. serv't.

J. HAMILTON COUPER.

Examination of a Sample of Soil from the sugar estate of Mr. John Penny, at Willow-Island, near Donaldsonville, Louisiana; by CHARLES U. SHEPARD, *Lecturer on Natural History in Yale College.*

External Appearances.—The sample consisted of two cubical cakes about five inches in diameter. The soil may be said to be close or compact; and to the naked eye, is of a clayey aspect. Its colour is light ash-grey, with a tinge of yellow. Brownish black woody fibres traverse the mass at frequent intervals. When examined with a good magnifyer, it is seen to consist of minute, scarcely palpable, transparent grains. Rubbed between the fingers, it communicates a harsh feel. When moistened with the breath, it emits a faint argillaceous oder. A fragment on being partly immersed in water, is slowly penetrated by moisture, throughout the mass.

These appearances led me to regard it as a siliceous soil. Before commencing the chemical examination, I placed the mass operated upon, in a place where it could be thoroughly pervaded by moisture, and subsequently in a dry, dark room, until it became dry throughout.

Chemical Examination.—I. Three or four ounces of the earth were digested in water at a boiling temperature for half an hour, with frequent stirring, in a silver basin. The

fluid, after subsidence and cooling, was filtered. The solution was slightly discoloured and possessed an empyreumatic and feebly saline taste. The addition of hydro-chlorate of baryta produced no cloudiness in a portion of this liquid; from which the absence of soluble sulphates was inferred. The remainder of the clear liquid was cautiously evaporated to dryness, when a thin, blackish coating covered the bottom of the basin. A portion of this film was projected upon a red-hot coal which occasioned a feeble deflagration, unattended by animal odor. The deflagration must have been occasioned by the presence of either nitrate of potash or of lime. The indication was too feeble to induce me to inquire into the nature of this nitrate.

II. To ascertain whether a considerable proportion of carbonate of lime, or carbonate of lime and magnesia, were present, dilute hydrochloric acid was affused upon the soil. A feeble effervescence, even when aided by heat, decided the quantity of carbonic acid to be small. The solution obtained, however, manifested a deep yellow colour; and on being tested with a solution of the ferro-cyanate of potash, yielded a decided precipitate of the oxide of iron, which must, therefore, be regarded as a noteable ingredient in the soil.

III. To determine the presence of lime and magnesia, the last mentioned solution was cleared of the blue precipitate, and to it a solution of carbonate of potash added, until the alkaline taste of the liquid denoted an excess of the carbonate of potash: a somewhat copious precipitate of carbonate of lime appeared. The liquid was filtered to separate the precipitate, and then boiled, when a separate precipitate, and which must have been carbonate of magnesia, was let fall in considerable quantity.

IV. To learn whether sulphate of lime was present in the soil, a portion of earth, upon which the hydro-chloric acid had been digested, was thoroughly washed with water, dried and heated for an hour with pulverized charcoal in a crucible. The contents of the crucible were stirred in half a pint of water, which after a short subsidence and filtration, was exposed to the air in an open vessel for three days without the appearance of any pellicle upon its surface; from which the absence of sulphate of lime was ascertained.

V. To determine the power of this soil for retaining moisture, 332 grains of the freshly powdered earth, and which appeared to the eye and to the touch, perfectly dry, were heated during fifteen minutes, in a silver basin, under a constant temperature of 300 Fahrenheit. The loss by this exposure was 11.2 grains weight, or 3.37 per cent.

VI. As the absence of odor in burning the precipitate from the liquid resulting from the digestion of the earth in water (I.) proved the absence of animal matter, the following experiment was made to learn the proportion of vegetable matter. 150 grains of the dried soil (V.) were ignited for one hour in a platina crucible, during which operation, it lost 8.5 grains in weight, which equals 5.66 per cent. of vegetable matter in the soil.

VII. To ascertain the quantity of alumina, the 141.5 grains of ignited earth (VI.) were treated with dilute sulphuric acid at a boiling heat for four or five hours. The undissolved matter was carefully washed and dried, and after ignition in a platina crucible, it weighed 124 grains. It exhibited all the sensible qualities of silicea. No attempt was made to separate the alumina from the magnesia and oxide of iron, with which it was united in the sulphuric solution.

Conclusion.—As no attempt was made to ascertain by weight the quantity of carbonic acid, or of the nitrate, it will be necessary to give the proportion of the carbonates and of the nitrate, chiefly from conjecture; our only guide being the bulkiness of their respective precipitates, from known weights of the soil. They are mentioned in the supposed order of their weights.

Silica,	78.00
Alumina,	9.00
Carbonate of lime, " " magnesia " " iron Nitrate of lime, or of potash	3.97
Vegetable matter,	5.66
Water, dissipated from the dry soil at 300 F.	3.37
	100.00

Observations.—As the object of the present investigation was to decide upon the nature of the amendment best

adapted to this soil, the following remarks are submitted. The great crop of the region being the sugar cane, a plant with fibrous roots, it is obvious that the absorbent power of the land requires to be increased. The most effectual way for accomplishing this, would be the thorough conmixion with it of a stiff, clayey soil; but this would involve in general too much labour, and in many cases would be wholly impracticable. As a substitute, however, which is alway within the reach of the planter, a plentiful dressing of ashes might occasionally be given, which besides operating to render the soil more retentive, would, by the causticity of the potash, hasten the decompositon of the vegetable fibres every where penetrating the ground; and thus powerfully contribute to the supply of pabulum for the plants. A well formed compost of animal and vegetable matters, such as would result from penning cattle upon cane trash, would practically subserve the same end; and seems peculiarly demanded, also, on the ground of the total absence of animal, and the small quantity of vegetable matter in the soil, as made known by this research.

It is believed that nearly one-third of the cane-lands in Louisiana, agree very nearly with the sample now examined. The great importance, therefore, of a general system of manuring is most obvious. Its immediate effect would be a more prolific growth and an earlier maturative of the cane.

New-Haven, September 1, 1834.

Analysis of a sample of the alluvial soil of the Red River, from the plantation of General Walter H. Overton, on Bayou Robert, near Alexandria, Louisiana; by J. HAMILTON COUPER.

The sample of soil examined was taken from near the surface of a field that had been eight years under continued cultivation; and presented an uniform appearance with the other parts of it. This soil is very fertile, and is inferior in no respect to that of the other alluvial lands formed by the Red River. It differs from those immediately on the banks of that river, principally by being several feet

more elevated, and in its exemption from an overflow. As the part of the field from which this sample was taken, nearly adjoins the Bayou Robert, the proportion of alumina is undoubtedly less, than in those more remote from that stream.

The colour of this soil, like that of the whole valley of the Red River, is a deep reddish brown or chocolate.—When rubbed between the fingers, the first impression is that of an impalpable clay: but on a more minute examination it is found to be slightly rough to the touch. The most stricking peculiarity that it presents externally, is the extremely minute division of its constituent parts. The whole passed with ease through a fine sieve, the meshes of which were only one-fiftieth of an inch in diameter. In consequence of this peculiarity, the soil is compact, and has the general appearance of a clay loam: but its rapid absorption of rain, and the facility with which it is cultivated, would prove this impression to be erroneous, even without resorting to a scientific examination.

The sample analyzed had been, during several months, exposed to the air, in a room, and was perfectly dry to the touch.

Chemical Analysis.

I. 200 grains of the air-dried soil, reduced to a powder, were placed in a silver basin over an argand lamp, and heated during fifteen minutes at a temperature of 300° F. When weighed, a loss of 5 grains was found to have taken place: being $2\frac{1}{2}$ per cent. of water of absorption, driven off by heat.

II. To determine the quantity of vegetable and animal substances, the dried soil was then heated to redness in a crucible, during half an hour, and until the carbonaceous matter was entirely dissipated. The residuum weighed $181\frac{1}{2}$ grains; which, as there was no smell of animal substances, shows the presence of $13\frac{1}{2}$ grains, or $6\frac{3}{4}$ per cent. of vegetable matter.

III. $90\frac{3}{4}$ grains, the one-half of the ignited soil, were then digested in dilute sulphuric acid, at a boiling heat, during four hours. The solid matter having been collected in a filter, washed and dried at a moderate heat, was found to weigh $79\frac{1}{4}$ grains; being siliceous sand. The matter dissolved was consequently $11\frac{1}{2}$ grains.

IV. To ascertain the proportion of oxide of iron, a solution of ferro-cyanate of potash was added to the clear solution (III.) until no farther precipitation occurred. The mixture was passed through a filter, and the precipitate having been washed, dried and heated to redness in a crucible, weighed 2.86 grains.

V. The remainiug 90¾ grains of the ignited soil (II.) were placed in dilute muriatic acid, and after standing two hours, the solid matter was collected on a filter, washed and dried, and found to weigh 90 grains.

VI. To the filtered solution (V.) carbonate of potash was added in excess: and the precipitate, treated as above, was weighed and amounted to .37 of a grain; being carbonate of lime.

VII. To ascertain the quantity of carbonate of magnesia, the filtered liquid, after the separation of the carbonate of lime, was boiled for half an hour, and the precipitate washed and dried. It amounted to .15 of a grain.

VIII. To determine the peculiar character of the soluble matter of the soil, 200 grains were placed in filtered rain water, over a lamp, and boiled during half an hour; and when cold, the whole was poured on a filter. The filtered solution was then submitted to the following tests.

1. Hydro-chlorate of byrata, produced neither cloudiness nor precipitate; whence is inferred the absence of soluable sulphate.

2. Nitrate of silver a very slight opalescence; less than when added to good well water: and showing the existence of a mere trace of muriate of soda (common salt.)

3. Muriate of platinum having produced no precipitate, it appears that the soil contains no nitrate of potash (saltpetre.)

4. The brown colour and empyreumatic taste of the solution indicating the presence of vegetable extract, it was evaporated to dryness, and left .3 of a grain of a brown, light, bulky powder, bitter and astringent to the taste; which burned with a blue flame, without a smell of animal matter or any perceptible deflagration.

IX. To test the existence of sulphate of lime (plaster of Paris,) a part of the solid precipitate (V.) was mixed with powered charcoal, and heated to redness in a crucible for an hour. It was then boiled during half an hour in water, when the whole was passed through a filter; and

the clear liquid exposed in an open vessel: after remaining several days it was examined, without presenting either pellicle upon the surface, or precipitate.

From the above analysis of this soil, it appears that 100 grains of it, thoroughly air-dried, consists of

Water of absorption,	2.50
Vegetable matter,	6.75
Silica (siliceous sand)	79.25
Oxyde of iron,	2.86
Carbonate of lime,	0.37
Carbonate of magnesia,	0.15
Alumina (clay) and loss,	8.12
	100.00

There was a trace of muriate of soda, (common salt); but no soluble sulphates, nitrate of potash, (saltpetre) nor sulphate of lime, (plaster of Paris.)

Hopeton, near Darien, October 8, 1834.

ART. LXXII.—*On the Egyptian Oat, in reply to a* HIGHLANDE; *by* C.

"Grand Caillan, (La.) July 22, 1834.

Dear Sir,—In the *Southern Agriculturist* for November last, I observe over the signature of "A Highlander," the following—

"A variety of oat having the hardiness of rye or wheat, 'which we might safely sow in October is a great deside-'ratum with us. Pray, Sir, if you or any of your corres-'pondents know such a variety, inform us where seed can 'be obtained."

I have, for the last four years, sown what is in Louisiana and the Mississippi, called the Egyptian oat, I find it succeeds well, sown any time in the fall, but it does best here put in from the 20th September to the middle of October, where it is put in early, and especially in a rich soil, care must be taken not to let it grow so large, as to joint before

frost, by which it is killed after jointing. This is prevented by turning stock on it when the ground is not too wet. Care should also be taken not to suffer it to be grazed too close, leaving the roots bare, by which it is often killed by frost; if not killed, it is much injured. By proper care and attention, as above, the Egyptian oat, when sown early, will be found valuable for winter pastureage, and by taking off the stock by the first or middle of February, will make a good crop. If sown without any regard to the advantage to be derived from winter grazing, I should prefer about the 15th of November here, (a little south of New-Orleans) and vary a little, according to climate. The Egyptian oat has a large grain, it is much heavier than the common kind. Should it be desirable, the oat crop will come off quite early enough to raise a pea crop afterwards. This is best done by breaking up the ground, then run a furough crosswise four feet a-part, and in this furough, drill the pea (field or cow pea) and cover with a light harrow. When they get eight or ten inches high, plough them, and let hoes follow, and put a little dirt, and the crop is made.

The Egyptian oat, I believe, are cultivated to some extent in many parts of Mississippi, and, I believe, generally preferred to any other kind, and I expect could readily be obtained for seed at Natchez, or in its neighbourhood.

C.

Art. LXXIII.—*The Introduction of Exotics; by* A Carolinian.

In some respects, it is common to regard times past, as better than the present. People, we think, were happier and better, as we remember them when children, and the present time in morals seem ever degenerating. But in one respect this view is reversed, in intelligence the present, always seems in advance of the past, and our vanity leads us very confidently to believe, that we are much wiser

than our fathers, and that the spirit of improvement burns brighter; yet even here, we are often quite as much mistaken. These reflections have occured to me in looking over a paper, published above seventy years ago, which furnishes a catalogue of foreign plants, suitable to this country, and recommending their introduction among us. What the fathers did in these respects, the sons can scarcely hope to equal. Such legacies as they left, in the staple articles of rice, indigo and cotton, the most zealous of their children, may dispair of furnishing their successors. Yet the example should urge our efforts in the same field: if, indeed, many things really new, have been left untouched by their enterprizing and indefatigable predecessors. How early was the culture of the vine, and the silk-worm, introduced—the olive, the fig, in its varieties, oranges and such tropical fruits, as could be naturalized. The wide world appears to have been searched and made tributary to the resources of South-Carolina. Her productions were even at an early period, considered the most valuable, and her fruits the finest. To see such a country declining, is surely no evidence of the improved energies of the present generation; and reads us a severe lesson on the vanity we indulge, when we suppose we are going beyond our fathers in our useful labours.

The paper referred to, contains the following catalogue:—

Türkey Madder,	*Rubia peregrina:* in Smyrna, a crimson dye.	
Dyers Madder,	*Rubia tinctorum.*	
Cork bearing Oak,	*Quercus suber.*	
Avellansa of Valenida Oak,	*Quercus aegilops.**	
Gall bearing Oak,	*Quereus gallifera.*	
Safflower,	*Carthamus tinctorius:* in Egypt for dying.	
Buckthorn,	*Rhamus catharticus minor,*	Uused by painters and dyers.
	" *saxatilis*	
Olives of several varieties,	*Olea Europa.*	
Oily Grain,	*Sesanum orientale.*	

* The large cups of the acorn used in dying in Greece and Natolia.

Two sorts of Cotton,	*Gossypium herbaceum*, " *hirsutum.*
Glasswort for Bariller,	*Salsola soda*, " *Sativa*, *Chonopodium maritimum.*
Locust Tree or St. John's Bread,	*Ceratonia siliqua.*
Pistachia Tree,	*Pistachia vera*, from Aleppo.
Ohio Turpentine Tree	*Pistachia terebinthus*, used in medicine.
Mastic Tree,	*Pistachia lentiscus.*
Gum Storax Tree,	*Styrax officinale.*
Gum Scammony,	*Convolvalus scammonia.*
Opium Poppy,	*Papaver somniferum.*
Alendrian Senna,	*Cassia senna.*
Tallow Tree of China,	*Croton sebiferum.*
True Rubarb,	*Rheum Palmatum.*
GumDragon, three sorts,	*Clamusrotang-peterocarsus draco dracena draco.*
Daidser: a kind of kid bean,	*Dolichos soja.*
Cassia Lignea Tree,	*Laurus cassia.*
Cinnamon Tree,	*Laurus cinamomum.*
Campherè Tree,	*Laurus camphora.*
Saga palm Tree,	*Cycas circinalis.*
Tree Balm Gilead,	*Amyris Gileadensis.*
Tree Bambo Cane,	*Arundo bambo.*
Siam varnish, or Tonrack,	*Anacardus orientalis.*
Tea,	*Thea.*
Umky of China,	*Gardenia Florida.*
East-India Mango,	*Magnifera Indica.*
Paper Mulberry,	*Morus papyrifera.*
Jesuits Bark,	*Chincona officinalis.*
Contrayerva root,	*Dorstenia contrayerva.*
Sarsaparilla root,	*Smilax sarsaparilla.*
Balsam Capaiva tree,	*Copaifera officinalis.*
Balsam Tolu tree,	*Toluifera Balsamum.*
Gum Copal or Locust,	*Hymenea Courbaril.*
True Jalap,	*Jalapium officinarum.*
Arnotto, for dying,	*Bixa Orellano.*
Gum Senegal tree	*Mimosa Senegal.*
Gum Arabic,	*Mimosa Nilotica.*

True Sycamore of Zacheus,	*Ficus Sycomorus.*
Turkey Figs,	*Ficus carica.*
Currants or Corinthian Grapes,	*vitus Apyrena.*
Calabrian Manna Ash	*Fraxinis ornus.*
Sweet Almonds,	*Amygdatus communis.*
Caper Tree,	*Capparis Spinosa.*
Pomgranite, double flowering,	*Punica granatum.*
Single do.	
Angal. Canaryweed or chell	*Lichen roccella.*
Gum Labdanum,	*Cistus ladaniferus.*
Gum Galbanum,	*Bubon galbanum.*
Gum Opoponax,	*Pastinaca opoponax.*
Cardamums,	*Amomum cardamomum.*
Tumeriak,	*Curcuma longa.*
Gum Tragacanth,	*Astragalus tragacantha.*
Coloquintida or bitter Apple,	*Cucumis colycinthis.*
Gentin,	*Gentiana lutea.*
China Root,	*Similax China.*
Aniseed,	*Pimpinella anisum.*
Gamboge,	*Gambogia gutta.*
Alkermes Oak,	*Quercus cociefera.*
Gum Myrrh,	*Myrrha offic:*
Gum Benjuim,	*Benzionum offic:*
Gum Amoniacum,	*Ammuniacum offic:*
Balsum Peru,	*Balsamum Peruvianum.*
Frankincense,	*Olibanum thusmascalum.*
Nutmegs with Mace,	*Nux moschata offic:*
Cloves,	*Caryophyllus aromaticus.*
Pepper,	*Piper nigrum.*
Mangasteens, (a delicious fruit,)	*Garcinia mangastana*, grows in Java.
Lechee, (a delicious fruit,)	*Lechee of China.*
Ipecacuanha,	*Ipecacuanha.*
Assafœtida,	*Ferula Assafœtida.*
Liquorice, Saffron, and	*Aloes soccotrina.*

This list serves to show, the public spirit of the colonial times—many of the articles mentioned have been introduced, and several that have been since introduced are not mentioned. Have, the fine fruits named, of Java and China, ever been tried? Our intercourse with those countries is such, that there could be no difficulty in procuring them.

A CAROLINIAN.

Several of the botanical names contained in the above list have been changed, we thought it best to leave the list as our correspondent sent it.—*Ed. So. Agr.*

Art. LXXIV.—*The Sand Reed.*

The interesting little island which shelters one part of our harbour, (Charleston)—interesting on account of historical associations, and is a retreat in the sultry months, where ocean breezes and a beautiful ocean prospect may be enjoyed—is still but a sand-bank, and from its light fluctuating soil, is subject to injurious changes: might we not from the experience of other countries, find the means of correcting this in some measure. The sycamore is a tree that will stand the most violent winds, and if planted along the shore, would prove a great protection: besides these, there are grasses that would fix the soil. The sand-reed, or *Arundo arenaria*, is a mean by which sea-coasts that have been from time immemorial sterile, might be in some degree fertilized. "It is of spontaneous growth in England of easy propagation, and not liable to become the prey of insects or the sport of sudden changes of temperature."—So says a review of Roncel's *Flora du Nord de la France*, and adds, "it exhausts not its native sands, requires no manure, and ripens its seed without the cares and labours of the husbandman. Long success has sanctioned the Dutch practice of sowing it on sandy coasts, subject to inundations. The example has been followed in Norfolk. And here the reviewer remarks: "In contemplating the ever varying contrivances by which nature regulates her operations, we are sometimes astonished by

her humble simplicity, not less than by her displays of stupendous power as in this little reed, which is made the instrument of repelling those stormy waves that have so often riven the bolted oak, and pierced and shattered the flinty rock in atoms." The same remark may apply to *Galium verum*, *Triticum junceum*, *Elyums arenarius*, &c. and still in a more forcible manner to *Cocos crucifera*, which if judiciously distributed, may one day arrest the overwhelming clouds of Arabia, and make the desert to rejoice and blossom as the rose.

To the above notice we add another, found in the same article which is interesting to us.

The common brome or broom-grass is cultivated on the sandy soil in the neighbourhood of Ghent, St. Nicholas and Antwerp, for the double purpose of furnishing suitable manure, and the *flower buds, which are pickled as capers.* If there be any similarity to this finely flavoured pickle, our farmers, may from this source, add a grateful and economical luxury to their tables.

ART. LXXV.—*On the Curing of Pea Vines for Stock; by* AMICUS.

" September 11, 1834.

It is certainly to be regreted, Mr. Editor, that so little attention should be paid to the rearing and management of stock. With a few exceptions, our cattle are left to shift for themselves, throughout the whole year. It is not my intention, at present, to enter into any argument, or statements of facts, to show how prejudical such procedure must be to the interest of the planter.

Those who are at present permitting their cattle to roam at large, picking up a scanty nourishment from the woods in the summer, and cotton fields in the winter, are not likely to divert their attention from other pursuits, and be induced to take more care of them, from any thing I may urge in their favour. This change will only take place when they *feel* the importance of this branch of

husbandry more than they do now. I shall not meddle with or disturb the harmony of their thoughts, by any allusion to the barbarity of the custom.

There are some, however, who think that their cattle deserve some favours from their hands, in return for the benefits conferred by them, and who are, therefore, anxious to procure something for their sustenance during the winter, but who are not able to obtain as much as is necessary. To such, I would address myself, and recommend the curing of pea-vines, to be used during the winter months. They are highly nutricious and will well repay all the trouble attending them.

I am, aware, that I recommend nothing new, that pea-vines have been often recommended by writers in the agricultural periodicals of the day; but I do not recollect any which give a satisfactory mode of curing them. Hence, many after trying them one or two seasons, either give them up as too troublesome, or as not being worth attending to. Most of our planters plant some peas every year, either between their corn, or in detatched fields, and it often happens, that their other crops press so hard upon them, that they have but little time to gather that crop, and consequently they are nearly all lost, unless they happen to be in a separate inclosure, into which their stock can be turned. Now what we would recommend in such cases, is not to turn their stock in, but to send a few hands and gather the whole, by pulling them up by the roots with the pods and all attached, and curing them for fodder. The way which I recommend this to be done, is not to spread them out to dry as has been practised, and by which you lose all the leaves, but to carry them from the field as fast as they are pulled up, and have them stacked at once. The best mode of doing this is to have a square pen built of rails, and at about eight or ten inches from the ground, to form a floor by laying rails across. On this throw the vines green (or fresh) as they come from the fields, and press them as close as you can. You will not get them so close but what a quantity of air will get in, sufficient to cure them thoroughly. When you have raised the stack four or five feet, another floor of rails should be laid, and the packing continued. In this way, you will find your vines cure remarkably well, look green, and be very palatable to your milch cattle, for whose use they

ought to be exclusively reserved, unless you have enough for all, which I rather think will seldom, if ever, be the case, until more attention is bestowed on cattle than appears likely soon to be.

I remain, yours, &c.

AMICUS.

ART. LXXVI.—*Mr. Jordon Myrick; by* A FRIEND.

Mr. Editor,—It is with extreme regret that we announce the death of Mr. Jordan Myrick, he finished his earthly career at Liberty, Bedford County, near the Virginia Springs, to which he had gone in hopes of improving his health. He died on the 25th of September last, in the 48th year of his age. Let the deeds of "the just man made perfect," live after him, and let his bright example be a guide to those who follow.

Mr. Myrick was a native of Brunswick County, in Virginia. He there received a plain education, and was brought up by his father in agricultural pursuits. When about 17 years of age, a traveller from the South received welcome entertainment in his father's family, and in the course of the evening, spoke of the overseers in the low country of South-Carolina. He represented them as having the uncontroled management of very extensive estates, about six months of the year, during which time, it was impossible for the owner to inspect his proceedings and detect improprieties. That these people usually received from $400 to $600 per annum, and were at that time (with some exceptions of course) from the opportunities and temptations to which they were exposed, generally indolent, profligate and knavish. The first thought that crossed the mind of Mr. Myrick, was this, "What an opening is here for an honest industrious man!" He determined to avail himself of it, and shortly after, set out for this his field of action. He had an uncle of the, name of Myrick, at that time an excellent manager at Dean Hall,

now the property of William A. Carson, Esq. Directing his course there, he was well received and instructed in the outline of his system and discipline, during a few months of residence on the place. He was then employed at $100 per annum by the late Mr. David Deas, to superintend his planting interest at the Villa, on the Eastern branch of Cooper River, then hired from the late Mrs. Horry, but now owned by Mr. John E. Bonneau. Mr. Myrick had then no money, two pair of shoes, and but one suit of clothes. He was, however, in good health and spirits—of indefatigable industry—with a mind of acute discernment, inquiring into and observing every thing that could promote his knowledge of planting and managing successfully. Besides the instruction and advice received from his uncle, who only lived six or eight miles off, Mr. Myrick was in the habit of conversing on these subjects with other experienced managers, and some judicious drivers of good character. Their frequent discordant opinions were commented on by his uncle, and reconciled, where possible, by reason and reflection, but generally subjected to his own experience and observation. Some squares of rice may have been injured by such experiments, but the result has been most happy for himself and his employers.

His chief or distinguishing excellence as a planter, was in the cultivation of rice—the accuracy with which he could discern, the true state of the fields, with the proper time for flowing, &c. &c.; next his judicious, kind, but firm and efficient management of the negroes under his care; and lastly his skill in constructing and repairing the banks of rice-fields. His reputation for these qualifications, added to his high character for integrity and industry, soon brought his services into demand, and at one time, he had the superintendence of thirteen plantations, in the adjoining parishes of St. Thomas and St. John. These he managed successfully by having an intelligent young man, residing on each place, subject to his control. Some of these young men have since risen to high rank and acquired considerable property as overseers of rice plantations.

Profitable employment soon made Mr. Myrick rich, and in the year 1828, he was enabled to purchase the undivided half of a valuable rice plantation on the Eastern

branch of Cooper River, with thirty-three negroes. His portion of the rice land being 140 acres in the highest order for cultivation, and irrigated by tide-water. His share of sales from the Blessing Plantation, for the years 1829, '30, '31, '32, and '33, amounted to $25.120, or an average of $5.024 per annum. The number of barrels of rice sent to market in those five years was 1580, or an average of 316 barrels per annum, each exceeding 600lbs. nett. All the rice was beat on toll, at ten per cent. so that the actual produce was 347 barrels each year, besides the small rice. He died clear of debt, leaving a property probably worth $40,000.

Mr. Myrick not only acquired wealth by the faithful and judicious discharge of his duties as overseer, but honour also. "On the 24th of February, 1824, a premium of a gold medal was presented to him by the Agricultural Society of South-Carolina, for an uncommon product of rice from 20 acres of land." "And on the 22d of February, 1825, another premium, likewise of a gold medal, was awarded to him, as manager of two or more plantations, having produced the most satisfactory testimonials of diligence, skill, good management, and humanity, given by the most respectable planters, by whom he was employed for twenty years." He likewise received from a Committee of this Society, a letter, requesting that he would communicate to them his method of cultivating rice, which he promptly communicated, and which they published for the benefit of the community. On one plantation, Richmond, he increased the production from 180 barrels of rice, which it only afforded when he took the management, to the average crop of 500 barrels per annum.

Mr. Myrick also enjoyed the inestimable gratification of witnessing a great improvement in the morals, manners, and character of overseers in South-Carolina generally, but especially on the rice plantations; and of having reason to believe, that this favourable change was influenced by his good example—in many cases by his instruction. Much emulation and rivalry was excited by his success; the usual produce of rice per acre increased at least one-fourth during his time, and the usual criterian of excellence in the character of an overseer was "to raise as good crops as Myrick."

PART II.

SELECTIONS.

Art. CVI.—*Culture and Extraordinary Productiveness of the Oxalis Crenata.*

[FROM THE QUEBEC MERCURY.]

This vegetable has been newly introduced in England, and on the limited experience a brief acquaintance with it has enabled those who have cultivated it to acquire, it is regarded as a plant of considerable promise and well worth attention. It is cultivated by tubers, and we have great pleasure in adding another instance of greater feeling with which the efforts of our new Quebec Society for the improvement of agriculture, are encouraged by societies, having the same purpose in view, in the mother country, in announcing that some tubers of this plant have been forwarded to this Society, by the Royal Devon and Cornwall Botanical and Horticultural Society, accompanied by the fourth annual report of their Committee, from which we extract the following notice of the *Oxalis Crenata.*

"It is cultivated by tubers, which being furnished with eyes like those of the potato, may, like it, be divided into several cuttings; but, as the substance of the tuber is the magazine destined by nature to sustain the plant till it acquires sufficient strength to draw its nutriment from the soil, it will perhaps be advisable not to make the division too small, or rather to plant the tubers whole, and reverse the division till after the plants have acquired such a size as to be independent of the nutriment of the parent tuber. While their culture is restricted to the limited operations of the garden, and perhaps also even after they have attracted the attention of the farmer. Mr. Beaton recommends making the tubers germinate in pots protected from the severity of the early spring; a practice which will facilitate the subsequent division just recommended. They should not be planted out in the open ground till the advancing season has removed all danger of severe frost. When transplanted, they should be put in ground well dug and rendered permeable to their roots, and should not be set closer than from four to six

feet apart. They will grow well, as Mr. Beaton observes, in any light soil, but a very rich soil is best for a heavy crop. The best method of planting would perhaps be to set them between drills, the earth of which may from time to time be brought down over them with a hoe. The thick succulent stems which are thrown up in profusion during the summer make excellent tarts, resembling those of rhubarb or gooseberries, but requiring less sugar; while the leaves are a grateful food to many domestic animals, and the tops and smaller branches may be employed as cuttings to extend its culture, and augment the production of tubers. Cuttings of this kind, stuck in the open ground without any peculiar care, as late as the 26th of last October, were found, when examined on the 16th of the following month, not only to have thrown out radical fibres, but to have commenced the formation of tubers. The plants flower during the greater part of August and beginning of September, and when covered with a profusion of golden blossoms, make a handsome appearance in the flower garden. Cuttings taken at this time, even when loaded with flowers, root freely, and produce their tubers at the usual season. In October the production of tubers commences, and such is the profusion with which they are thrown out, that, in rich soils, they not only fill the ground to the exclusion of every thing else, but frequently even form on the stems above the surface of the ground. As the production of these tubers does not appear to commence at present earlier than the first of October, and as their growth and production may be effected by cutting the herbage after that day, it would be worth while to determine the question by a careful examination of the produce of two plants growing in circumstances perfectly similar, the herbage of one of which had been cut after this period, while that of the other was left untouched. The herbage when cut during the summer months is rapidly reproduced; and Mr. Beaton states that on the 27th of last September he obtained no less than ten pounds' weight of green food from a single tuber, planted six feet apart from any other. He considers this herbage as superior in summer to every other kind of green fodder for cattle.

Attempts have been made to discourage the experiments now prosecuting for the purpose of ascertaining the real value of the *Oxalis crenata*, as an article of sustenance for man, as compared with other productions of a similar nature, the secretary of the Horticultural Society feels it his duty, as a friend to every improvement calculated to add to the comforts of the poor, and provide for the wants of our increasing population, without attemping to give any positive opinion, or create hopes which may terminate in disappointment, to lay before the society from time to time such *facts* as may come to his knowledge from *authentic sources*, accompanied with such suggestions as those facts may present; distinguishing, however, the *facts* from the *theory*, and

leaving his readers to estimate the value of the *latter* from the details of the *former*. On the 7th of April, a tuber of the *Oxalis crenata*, weighing only 28 grains, was planted in an old cucumber bed, in a garden on the east side of Plymouth. About five weeks after, two offsets were taken from it and planted separately in the common soil of the garden. The parent plant grew with surprizing vigour, and soon spread over an elliptic space, the transverse diameter of which measured three feet seven inches, and the conjugate diameter three feet one inch. Early in November, the proprietor, having accidentally disturbed the ground, broke off a few tubers from one of his plants, which he cooked, and found to be most delicious, resembling the flavour of a mealy potato, without the slightest trace of acidity. On the night of the 25th and the morning of the 26th of November, there was a smart frost, which injured the herbage of the plants, and from which they did not again recover. On the 14th of December, he at length took up the roots, when he found the produce to be as follows:

Parent plant,	407	tubers, weighing	7	lbs. 8	oz. 14	dr. 22 gr.
Two off-sets,	198	"	"	3	8	0 0
Total,	605		11	0	14	22

being a return of no less than *two hundred and seventy-five thousand per cent.*, a return almost unparallelled in the annals of horticulture. Of these tubers, one, now in the possession of the secretary, who will be happy to show it to any desirous of examining it, displays the singular form of a compressed cone, or rather triangle, two of whose sides measure one inch and six-eighths, while the remaining side measures two inches, so that it is as nearly as possible equilateral, with a thickness of nearly six-eighths, and weighs 300 grains, or nearly 14 times the weight (28 grains) of the tuber originally planted; this *one tuber* alone being a return of no less than 1392.86, or nearly 1393 per cent. The time occupied from the planting to the digging did not exceed 251 days, or the time usually required for the potato to bring its tubers to perfection, and there is reason to believe that this period might have been advantageously shortened by a month or more, for when the proprietor tried the tubers in the early part of November, they were superior in flavour to the best potatoes, while some of those dug on the 14th of December last, had acquired more or less of an acid taste, which was disrelished by many. It has been already observed that the plants were cut off by the frost of the 26th of November, after which it is probable that the growth of the tubers, as to size, ceased to advance, and nothing consequently was gained by leaving them in the ground—but as the frost was followed by a succession of warm humid weather, favourable to vegetation, it

appears probable that, although ceasing to advance in size, the tubers, or many of them, began to germinate; now the process of germination, as in the familiar instance of malting, is well known to be accompanied with the formation of sugar, from the absorption of oxygen, both the decomposed humidity and from the surrounding atmosphere, and by the farinaceous portion of seed. In plants, however, whose product, in place of being saccharine, is a peculiar acid, as in the family of the sorrels, it is not improbable that the combination of the oxygen during the progress of germination, with the farinaceous portion either of the seeds or roots, forms that peculiar acid which, from the genus by which it is furnished in the greatest abundance, has been termed the oxalic acid; and hence, those tubers which, prior to the 26th of November last, were perfectly sweet, became subsequently, from the commencement of germination or malting, more or less acid according to the degree of progress made. This hint, founded perhaps upon an erroneous analogy, is merely thrown out for the purpose of calling attention to the subject, eliciting information from those more competent to supply it, and removing any unreasonable prejudice which may have been created in the minds of those who have tasted the tubers at an improper stage of their growth. As for those whose fears may have been alarmed by the information that oxalic acid exists in the Oxalis crenata, it is but just to relieve their apprehensions by stating that the acid does not exist in its deleterious state, but in the form of a neutral salt, the super oxalate of potassa, whose effects, in the common wood sorrel of the hedges *(Oxalis acetosella,)* the sorrel dock *(Rumex acetosella,)* and other similar vegetables freely used as sallads, are eminently antiscorbutic and beneficial to the health.

It is stated that the tubers of those plants of the Oxalis crenata, which have blossomed, are larger and better than those of plants which have not flowered: the fact, if correct, is important, and deserves inquiry, especially as the reverse is said to happen in the case of the potato *(Solanum tuberosum.)*"

Art. CVII.—*Potato Culture; by* T. A. Knight.

[FROM THE LONDON GARDNER'S AND FORESTER'S RECORD.]

The following letter upon this important subject has been addressd to the Editor of the *Hereford Journal*, by one of the most eminent practical agriculturalists of the present day:—"Sir, In a letter which I addressed to you in the last autumn, I stated that I had obtained a produce of potatoes equivalent to 964½ bushels and 3lbs. (each bushel weighing 80lbs.) per statute acre, and I then expressed an intention, which I now fulfil, of pointing out to your readers the means by which such an extraordinary crop was obtained, and by which, of course, other crops of equal magnitude may again be obtained, and I look forward with confidence to obtaining in the present year a produce equivalent to 1000 bushels per acre of potatoes of first-rate quality. The first point to which I wish to direct the attention of the cultivator of the potato, is the *age of the variety;* for it has long been known that *every variety cultivated, gradually becomes debilitated, and loses a large portion of its powers of producing; and I believe that almost every variety now cultivated in this and the adjoining counties, has long since passed the period of its age at which it ought to have resigned its place to a successor.* No variety should ever be cultivated which uselessly expands itself in the production of seeds, nor even of full grown blossom, unless it possess some valuable redeeming qualities. The distance of the intervals between the rows should be regulated wholly by the length acquired by the stems in each peculiar soil and situation, if the utmost length acquired by the stems be four feet, let the intervals between the rows be four feet also; and if the variety be of dwarfish habits, and its longest stems do not exceed two feet, intervals of two feet will be sufficient. The rows should be made to point from *north* to *south*, that the mid-day sun may be permitted to shine fully between them, for every particle of living matter which is found in the tuberous root of the potato plant, has been generated in the leaves, (which act only when exposed to light) and has *descended* beneath the soil. Each set should weigh *at least six ounces*, and they should never be placed at greater distances from each other than six inches from centre to centre, and a preference should be given to *whole potatoes*, when such can be obtained. If the growth of the plant be very dwarfish, four inches between the set from centre to centre, will be preferable; and if the form of the potato be long and kidney-shaped, a good deal of advantage will be gained by placing them to stand upon their ends, that end which joined the parent plant being placed downwards. The largest produce will generally be obtained from varieties of rather early habits and rather low stature; there being in very tall plants much time necessarily lost

in carrying the nutriment which has been absorbed from the soil, up into the leaves and down again in the state of living sap to the tuber. Varieties which have strong stems and erect form, are to be preferred, because such are least subject to fall upon, and shade the foliage of each other. It is much more advantageous to incorporate the manure with the soil by means of the spade or the plough, than to put it in with the sets; for in the latter case, a large majority of the roots, during the summer and the autumn, do not derive advantage from it. Early planting is, under almost all circumstances, best; and the period, except for some very peculiar varieties, should never be later than the middle of April. I possess, though at present in small quantities necessarily, many new varieties, which promise to prove valuable both on account of the quantity and quality of their produce; and I shall be happy, as soon as I have the power, to make them useful to the public. I obtained in the last year from some of these, under culture with the plough, (the soil being shallow, and naturally poor, and manure not having been given in more than ordinary quantity,) a produce equivalent to more than 650 bushels of potatoes, of first-rate excellence, per acre, and a good deal larger produce from others of inferior quality, but I have not any reason to believe that I possess any variety which, either in quality for immediate human food, or in quantity for affording food to the inferior animals, has reached, or even approximated the greatest state of excellence which the potato is capable of acquiring.

T. A. KNIGHT."

ART. CVIII.—*On the Comparative Advantages of feeding Live Stock on raw or on prepared food.*

The Agricultural Society of Scotland, in 1833, offered a premium of 30 sovereigns for the best report, founded on actual experiment made for that purpose, on a number of oxen or heifers, not fewer than six, the animals to be of the same breed, age and sex, and the term of feeding not less than three months; and a premium of 10 sovereigns for a like report on feeding ten or more swine. Five reports were received, which appear in the Quarterly Journal of Agriculture for June, 1834. We record

the result of these experiments, which purport to have been made with scrupulous accuracy, for the information of the numerous patrons of the Cultivator.

Robert Walker made his experiment with six two years old heifers, and four two year old stots (steers); each was divided into lots and fed on like food, except that one-half received their food raw, and the other half in a steamed or cooked state. The food consisted of Swedish turnips, potatoes, and crushed beans, with a little salt and straw. At the end of three months, it was found that the three heifers fed on steamed food had gained 48½ stone, or 789lbs., and the three heifers feed upon raw food had gained 45½ stone; but the quantity consumed by the first lot exceeded that of the latter.

Cost of feeding on steamed food, - - - - - -	£14	1	3
" on raw food, - - - - - - - -	10	6	7½
The first cost more than the last, - - - - - - -	3	14	8½

Deducting the first cost, and the price of fattening, from the price paid by the butcher, there remained a profit on the three heifers fed with steamed food of nine shillings; while the profit on the three fattened on raw food, amounted to £3 10*s.* 6*d.* By a like estimate, the loss on the steam stot was 3*s.* 8½*d.*, and the profit on the one fed with raw food was 10*s.* 6*d.* The two other stots were put to good grass on the 25th of May. On the 18th of October, they were found to have gained alike, each 12 stone.

Mr. Andrew Howden made a like experiment with 18 cattle in six lots. Their increase, and expense of keeping, for three months, from 20th March to 20th June, were as follows:

	lbs.	*Expense.*		
Three heifers on raw turnips, - - - - - -	392	£6	18	0
" " on steamed turnips, - - - - -	532	8	18	0
" " on raw potatoes, - - - - - -	600	10	7	0
" " on steamed potatoes, - - - - -	572	10	7	0
" stots on raw potatoes and corn, - - - -	722	9	4	0
" " on boiled potatoes and corn, - - -	889	9	5	0

John Baswell gives the result of his experiments on feeding ten horned cattle and ten hogs, on raw and prepared food. The expense of keeping the five cattle on raw food was £32 2*s.* 1*d.*, while that of the cattle on prepared food was £34 5*s.* 10*d.* On being slaughtered, the two lots appeared to be very similar, but the particular weight is not mentioned.

The purports of these reports implies, that there is very little if any advantage in cooking food for neat cattle. But in regard to hogs, the experiments show a different result. The gain and expense of fattening Mr. Baswell's hogs are stated as follows:

	Cwt.	*qr.*	*lbs.*	*Expense.*		
Five hogs fed with cold food, - - - - -	4	2	7	£6	19	4½
" fed on raw food, - - - - - -	2	2	21	5	8	6

W. Dudgeon made his experiment with twelve pigs, six *he* pigs in one lot, and six *she* pigs in another, afterwards subdivided, to ascertain the respective merits of the sexes for feeding. The result was decidedly favourable to the cooked food, notwithstanding the expense was 20 per cent. the greatest. The pigs were fed from the 2d July to the 12th October, at which latter date the *he* pigs had gained 38 stone 6lbs, and the *she* pigs 17 stone 11lbs. The result satisfied the reporter, that prepared food is best to be given to pigs, and, besides, that the pork is superior to that of hogs fed on raw food.

Robert Walker made this experiment with ten pigs, five fed on steam potatoes, with a daily allowance of 2½lbs. broken barley each lot. The result was as follows:

1833, March 4, live weight of 5 pigs on raw food,	108lbs.
June 1, " " " -	223
Gain, - - - - - - - - - - - - - - - -	115lbs.
March 4, live weight of 5 pigs on steamed food,	106lbs.
June 1, " " " -	279
Gain, - - - - - - - - - - - - - - - -	173lbs.
Difference in favour of steamed food, - - - - - -	58lbs.

But what comes nearer to our practice, are the experiments of the Rev. H. Colman, one of our best practical farmers, in whose accurcy we may put implicit confidence. Our hog feed differs from that of Europe; and the main questions to be decided here, are, whether Indian corn is most profitable fed in a dry unground state, in the form of Indian meal, or cooked preparatory to its being fed. Soft or pig corn will be fed in the cob; and potatoes and pumkins, of which every farm affords, or ought to afford, a considerable supply, should unquestionably be cooked; yet we generally finish off our pork, after the refuse of the farm is exhausted on sound corn: it gives solidity and flavour to the pork; and the question, we repeat, is, in what form is this sound corn most profitably given? Mr. Colman's experiments were instituted in 1833, with a view not only to solve this question, but to ascertain the profit or loss incident to fattening pork with corn, and the age at which it is most profitable to put up swine to fatten.—*Cultivator.*

ART. CIX.—*On Forcing Asparagus*; *by* Mr. T. RUTGER: *with an account of the French Method, translated from the "Bon Jardinier" for* 1834.

[FROM THE LONDON GARDENER'S MAGAZINE.]

Sir,—In the routine of farming, I conceive the forcing of asparagus to be one of the most simple practices to accomplish; and, when any thing like a proper treatment is given, success is certain. Nevertheless, as that treatment is not generally known, a few hints upon the subject may, perhaps, not be amiss.

In every department of forcing (blanching excepted,) the nearer we can bring the article forced to the state of perfection which it exhibits in the natural state, the better. This, I think, will be conceded by every one conversant with gardening, and the consequences which will naturally follow the adoption of such a rule are, that a higher degree of flavour will be obtained, as well as a more natural appearance in the article, whatever it may be.

With regard to the asparagus which is brought to Covent Garden Market during the forcing season, I have observed most of it to be nearly as white in the part grown above ground as in that below; which is no doubt occasioned either by excess of bottom heat, or for want of light and air, or both combined. A sad mistake this in the cultivators, whoever they may be. Defects may be excusable in some kinds of fruits or vegetables, which are very difficult of culture; but, in growing asparagus, I conceive there is no reason why any difficulty should exist; nor will it argue any thing in favour of the practice, to attribute it to the desire of bringing the shoots earlier into the market, as, by planting the roots a fortnight or three weeks sooner, this might be accomplished. The fact is (and I write from experience,) that, in growing asparagus in artificial heat, the slower the process the better. The heat below should be very moderate, and, as soon as the buds appear above ground, all the light and air that can be given with safety should be freely rendered; and by this means the asparagus, instead of presenting the blanched appearance which it often does, would not only assume more of its natural hue, but its flavour would be improved, and its size augmented.

Since writing the above, I have met with a paragraph in your Magazine, which hints that a further knowledge is necessary to be acquired in this country, in order to produce asparagus of a good quality; and I should be glad to see what the *Bon Jardinier* for 1834 says upon the subject, although I think enough has been given in your *Excy. of Gard.*, with respect to

the preparation of beds, roots, &c., for the purpose. It is in the after-treatment, I conceive, that the fault principally lies.

I am, Sir, yours, &c.

T. RUTGER.

Shortgrove, Feb. 1834.

Forcing Asparagus, as practised in the neighbourhood of Paris.—In compliance with Mr. Charlwood's suggestion, and with the wish expressed by Mr. Rutger, we translate the passage alluded to, which is as follows:—Asparagus is obtained in winter and early spring on uncovered dung beds, or on dung beds covered with glass frames, by various methods; of which the two following are those most generally used by the gardeners in the neighbourhood of Paris.

Forcing White Asparagus.—By this mode asparagus is forced without removing the plants from their places in the open garden. The asparagus beds are laid out four feet wide, and two feet wide are left between them. The beds are made up, and manured with more than ordinary care, and they are planted with four rows of plants; the rows being a foot apart, (which leaves a space of six inches wide between the outside row and the path, on each side of the bed,) and the plants being 9 or 10 inches from each other in the row. The beds are carefully attended to, and cultivated during three years. Forcing is commenced in the fourth year, from December till March, according to the demand. The paths are hollowed out to the depth of 18 or 20 inches, and the earth taken from them is thrown on the beds: the paths are then filled up with hot dung well trodden down, and glazed frames are put upon the beds, the frames being filled up to the glass with hot dung. The beds are raised 3 inches or 4 inches by the earth thrown upon them from the paths, and this is done to increase the length of the blanched shoots of asparagus. Twelve days after putting on the frames, a little of the dung in them is lifted up with the hand, or order to see whether the asparagus has begun to push: when it has, all the dung is taken from the inside of the frames, and the heads of asparagus are cut as they attain the desired size. The sashes should not be more than six inches from the soil. The heat is kept up by renewing and stirring the dung in the linings, and by covering the frames with straw during the night, and in bad weather. In April, the frames are taken away, and the dung is removed from the paths, which are again filled with the earth which was thrown on the beds. The plants are then allowed to rest a year; but the second season they may again be forced, and so on alternately, as long as the produce is satisfactory. The asparagus thus obtained is called white asparagus by the Parisian gardeners, as the heads have very little colour; but there

is another kind, which is called green asparagus, which may be raised by the following method:—

To force Green Asparagus.— From December to March, beds of hot dung, 4 feet wide and 2 feet high, are made successively as required; and these beds are covered 3 or 4 inches deep with vegetable mould, or rich black earth; on this are placed the frames, which are covered with straw to increase the heat. When the beds are in a proper state, they must be planted with asparagus plants three or four years old; or with old plants from beds about to be destroyed, the roots having been reduced to an equal length, say 8 or 9 inches. The roots are placed in the beds on end, so close together as to support each other, and so as to have their buds all nearly of the same height, mould being pressed between the plants with the hands, so as to fill up all vacuities. The frames and sashes are then put on, and the asparagus soon begins to push. The shoots are small, but very green. As the roots do not continue throwing up shoots more than a fortnight or three weeks, it is necessary to make but few beds at a time, to renew them often. This green asparagus is chiefly used in Paris, cut into small pieces, as a substitute for green peas.—(*Le Bon Jardinier* for 1834, p. 187.)

ART. CX.—*On the Culture of Peas; by* W. TOWNSEND.

[FROM THE LONDON HORTICULTURAL REGISTER.]

In two of your preceding numbers, I have given you an account of the different varieties of the garden pea, and perhaps it would not be considered altogether amiss to offer a few observations relative to their cultivation, &c. It is, I believe, a general practice for peas to be sown in rows, from two to five feet apart, according to the height which the different varieties grow; a practice of which I do not altogether approve, with the exception of the earliest crops, there being in general but certain compartments suitable for them. The method I have been in the habit of pursuing, is to sow the seeds of the second and after crops in rows, a considerable distance apart, say from twenty to thirty feet, according to the size of the kitchen garden, or the quantity required. The interval between the rows is cropped with other vegetables of dwarf growth, such as broccoli, savoys, cabbage, spinach, celery, &c. so that there may be no loss of ground.

The tall peas when sticked are an advantage rather than otherwise to the intermediate crops when first planted, on account of the shade which they produce, and in addition to which the ground appears always fully cropped. It therefore must be admitted, that it adds to the beauty of the kitchen garden. By the above treatment the crop is increased fully one-third, and of superior quality. The produce of the common bean, and also of the scarlet runner is considerably increased by the above mode of treatment. Respecting the hardiness of the different varieties, I am not at present able to give any decided information; but it has been confidently asserted to me, that some of the marrows as well as other varieties are equally hardy as the early frame, Charlton, &c. If such is the case, and I have no reason to doubt it, how much sooner in the season might some of the finer varieties be sent to table. However, be that as it may, I purpose to give the different varieties a fair trial, and hope to be able in due season to give a detailed account of the comparative hardiness of each variety. The sugar peas are not unfrequeutly, when quite young, gathered, sliced in the manner of harrüots, French beans, and sent to table in that state. It perhaps may not be unnecessary to add, that the soil in which the peas grew, as described in your preceding numbers, was a strong rich loam, and I have no hesitation in saying, it is the best kind of soil for late peas, and for early peas I believe a light dry soil will be found to answer best. It is also a general practice, in small gardens particularly, to sow their peas too thick, which is greatly detrimental to the crops. As a criterion, I should recommend, for the earliest sorts, about a pint to every fifteen yards, and for the latter kinds the same quantity to about twenty-five yards. The whole of the varieties of grey peas are unfit for garden culture.

ART. CXI.—*On the Propagation of Plants in Water; by the Author of the Domestic Gardner's Manual*, C. M. H. S.

[FROM THE LONDON HORTICULTURAL REGISTER.]

This little article is perhaps of no great utility, but it may serve to amuse, if not to instruct some, who are curious in horticultural experiments. I have before given, at some length, a detail of my early practice, of striking melon and cucumber cuttings, in a bottle of water, plunged in a bed of leaves or tan, the temperature of which may range from 75 to 90 degrees. I pursue this prac-

tice steadily, cutting the terminating spouts of good, vigorous plants across the third or fourth joint, from their points; but this precaution is not essential with the cucumis tribe; for I have noticed that, roots may be emitted *between joints;* and even (as is sometimes the case) when the interval between the lowest end of the cutting, and the first joint above it decays, and as it were, dissolves in the water, roots will emerge from the sound parts above those that decay; hence, every facility is afforded to a cultivator. I find that frequently in three days, some radical processes are sent forth, quite sufficient to secure the growth of the plant in soil, without a moment's loss of time, and this I account for, by the perfect *safety of the removal* from the fluid medium, without the disruption, or slightest injury of any fibre or spongelet. It may, however, be as well to cover the young plant for a day or two with a hand glass, to guard against evaporation, till it has fully established its protruding roots in the terrene medium. The foregoing observations may be considered as an appendix to the facts already recorded: it remains to notice others which have induced me to offer this article to the attention of the readers of the *Register.*

The mode of propagation by cuttings is adopted extensively by every cultivator; but I am persuaded that a good deal of time may, in many instances, be economized by having recourse to water. I would by no means abandon the old mode; the only point which I believe is not sufficiently attended to, is one that seems of essential moment. Wherever a large stock of plants of one species is not contemplated, a great deal of disappointment may be saved by placing *single* cuttings in very small pots; or if three be placed in the same pot, I would urge the gardener to thrust each into a little hole in close contact with the side of the pot.

When the three plants are rooted, and growing, a knife passed cautiously through the ball at the angle formed by the lines 1 and 2, will secure a sufficiency of earth to protect the young plant from a very serious check, and if the pots of cuttings be placed in a shallow propagation frame, having a sliding sash light a few inches only above the tips of the cuttings, there will, generally speaking, be little need of employing bell-glasses. But a few phials with necks at least half an inch clear in the bore, and nearly filled with rain water, will not only furnish a resource for the operator, but afford him an opportunity of watching, day by day, the mode in which nature effects her radical developements. I am persuaded by the evidence of my daily experiments, and the analogy thereby traceable—that, most succulent and semi-succulent plants will, if favourably treated, protrude roots into water.

Nerium Splendens;—indeed, oleanders in general will strike freely.

Balsamina—the balsam will strike almost directly, and procure a flowering plant of three inches in height.

Gesneria will, I believe, root to a certainty; though not rapidly. I have by me a single leaf of *Gloxinea Speciosa*, which I took off *with its bud*, close at its junction with the stem. I plunged the phial in a bed, and in a few days, the base of the footstalk began to swell; the little bud upon it became greener, increased, and threw out two minute leaves. A fortnight has elapsed, and, to-day I observe a round whitish knob about one-sixth of an inch across, at the base of the stalk, and one single fibre emerging from that above it—but still resting on the leaf, a complete plant in miniature is traceable.

Now, all this is delightful and instructive. I drop a few hints only at this time, because I cannot command leisure to proceed at length; and moreover, these hints may prove a stimulus to the wise and industrious horticulturist. Reader—I beseech you to follow the lead—pursue the inquiry, and communicate discoveries to your brethren. None will be more grateful than he who *believes* he now communicates something of novelty; but who, if he have been, (though unknowingly) forestalled, will be one of the first to acknowledge his tardiness.

July 4, 1834.

P. S. I could name several experiments, but these may present matter for a future paper; however, I think that, dahlias may be raised in water, and that, in great probability pine-apple suckers and crowns would emit roots, but require a good heat and cautious immersion.

ART. CXII.—*An Experiment made with a View to determine the Efficacy of Oxalic Acid in stimulating dormant Vegetable Life; by* WILLIAM HALILTON, Esq. M. D.

[FROM THE LONDON GARDENER'S MAGAZINE.]

I took on the 5th of May, four grains of Victoria wheat, and put two to soak in 2oz. of soft water, ascidulated with two drops of a saturated solution of oxalic acid; while the other two were put into rain water. At thirty minutes past one in the afternoon of the 6th of May, after having been macerated for twenty-six hours, I took out one grain from each, and, washing that which

had been in the acidulated water from any adhering acid, I planted both in separate pots; and, at noon on the following day, after macerating for forty-eight hours and a half, I took the remaining grains, and sowed them, without washing that which had been soaked in the acidulated water. On the 10th of May, the first sown seed, which had been soaked in the acidulated water, first appeared above ground, at 8 A. M., and at the same hour on the succeeding day had made a growth of four-eighths of an inch; while the grain soaked in rain water, and sown at the same time with it, was still invisible. At length, on the 12th, at 8 A. M., by which time the leaf of the former was fully expanded, and its height was $1\frac{1}{8}$ in., the other appeared above ground, and, almost simultaneously with it, the second seed taken out of the acidulated water, and planted without washing. On the 14th, the plant which first appeared was, at 8 A. M. 2 6-8 in., while that sown at the same time with it had its leaf just beginning to expand, and its height was only 1 in. The fourth seed (the second of those soaked in rain water) had not, and has not yet, appeared. At this moment, 3 P. M., May 20, the first of those soaked in oxalated water measures 6 in. from the ground to the top of the longest leaf (two leaves being fully developed); that soaked in rain water $3\frac{7}{8}$ in.; and that which, having been soaked in the oxalated water, was sown without washing, 2 in., and a little more than six-eighths. What their future progress will be, we have yet to learn. However imperfect and inconclusive these experiments may be, their notice may not be altogether useless, since they may serve to stimulate some better experimenter to take up the subject, and prosecute it more successfully.

Plymouth, May 20, 1834.

Art. CXIII.—*Poultry.*

[FROM THE WESTERN AGRICULTURIST.]

Under the term poultry are included several kinds of birds that are usually considered stock for farms. The rearing of these, either for family consumption or for market, is practised by almost every farmer, whether profitably or not, depends in a great measure upon the manner of rearing them. That it may be made a profiable business, particularly in the vicinity of large cities, is

abundantly proved by the prices obtained for poultry in this place. When it is recollected that the amount of capital necessary to engage in this business to a very considerable extent, is but a trifle, and that the care and management of a large amount of poultry may be bestowed by the females and children about a farm house, and that the returns for the sale of it are both speedy and certain, it is a matter of surprize that more attention has not been paid to this branch of farm stock. When a turkey will command as much money as a bushel of wheat, and a chicken is equal in value to a bushel of corn, as is very often the case in this market, the farmers in this vicinity, will find it to their interest, to pay some attention to their poultry yards.

The want of proper care, in rearing this stock, renders it less profitable to those now engaged in it, than it otherwise would be. A few plain practical remarks upon this subject may not therefore be amiss, before it is disposed of.

In the rearing of dung-hill fowls, their yards should be selected with a reference to giving them a supply of sand and gravel. Their houses should be kept perfectly clean and constantly supplied with pure water. Their nests should be so situated as to prevent the hens when setting from seeing each other. Young hens are most profitable for eggs, old ones for hatching chickens; the former lay a greater number of eggs, the latter set with more care and assiduity. One cock is sufficient for six or seven hens. The eggs placed under a hen when setting should not exceed one dozen in number, and care should be taken to select those which are fresh. Food should be placed near the nests that the setters may not be compelled to leave their nests for too long a period. The chickens when first hatched should be fed on boiled potatoes, and carefully protected from wet which is extremely prejudicial to them. The disease to which young chickens are most liable is the gaps, formerly supposed to arise from a small worm in the throat. The better opinion, however, is that it proceeds from inflammation, owing to exposure to cold and wet. The best mode of curing this disease, is, by protecting the chickens wholly from the wet, and feeding them on pungent heating food. For this purpose red pepper pods may be boiled with their food. They should also have some pepper grass mixed with their green food.

To fatten chickens, they should be confined in a well ventilated and somewhat darkened place. They should be fed four time a day, with steamed potatoes or buckwheat. They should have plenty of pure water, and a supply of sand and gravel. Their coops should be well aired and kept perfectly clean. Some animal food should also be occasionally given with the vegetable, experiments have long since proved that this kind of diet is very necessary to the successful rearing of all kinds of poultry.

In selecting a stock of geese, those of a large size should be taken. When they are about to set, their nests should be so arranged as not to permit the setters to see each other, nor should they be separated from the ganders of the flock. From ten to twelve eggs should be placed under each goose. There should be constant supply of food kept near the nests that they may not be driven to leave them for any length of time. The goslins should be kept in a warm sunny place, secured from rains and vermin, and fed with crumbs of bread, wheat, barley or oats. While young, they should not be permitted to run into water, as it is liable to engender disease. When put up to fatten, green food should be mixed with their oats.

Turkies.—The black breed of turkies is, on many accounts, deemed preferable to the brown. Each turkey hen usually lays from eight to ten eggs. The young brood are extremely tender. For the first month or six weeks they should be placed in a warm airy situation, free from wet, and carefully fed with bread, steeped in fresh milk, with which chopped onions may be occasionally mixed to advantage. After that period their food may be changed to meal; buckwheat and other kinds of grain may be given. Some writers upon this subject recommend that young turkies should be fed upon the following preparation. Two eggs boiled hard and cut up fine, a handful of young mustard also cut up fine, and a small quantity of ground pepper, mixed with scalded Indian meal sufficient for one hundred young turkies. This preparation is deemed salutary in preventing those diseases to which they are liable. With due care one male and eight females are sufficient to rear from fifty to seventy turkies.

Ducks.—These thrive best with plenty of water, near a barn-yard, and if thus situated they require but little care. Their food may be much the same as that given to chickens. They require a constant supply of water and sand. They also require a supply of animal food. If suffered to run at large upon a farm they are useful in destroying worms, slugs and caterpillars. The ducks lay a great many eggs, and may be easily fattened.

Art. CXIV.—*Grafting.*

[FROM THE NEW-YORK CULTIVATOR.]

Grafting is a mode of propagating varieties of fruit of esteemed quality. Grafts may be cut any time after the fall of the leaf in autumn and before the buds begin to swell in the spring.

They should be of the preceding year's growth, are best from bearing trees and exterior limbs. They may be preserved by imbedding their larger ends in clay, a potato, or in moist earth, in a cellar in winter, or in the open ground, partially or wholly covered in the spring. Grafts are annually sent across the Atlantic. The great care should be that they are not kept too warm or too moist, so that the buds swell before they are wanted for use. The rationale of grafting will suggest the time and the manner in which it should be done. The scion and graft are to be so adjusted that the sap wood of the stock, by which the sap ascends from the root, comes in contact with the sap wood of the scion; and a like adjustment must be observed between the inner bark of both, through which the sap descends from the graft to the stock after it has been elaborated in the leaves. Without the first precaution, the sap will not reach the graft, which will consequently shrivel and die. Without the last, the graft cannot knit or unite to the stock; for it is the descending sap which forms the new wood, and which indeed causes the graft to send its roots down into the earth, upon the outside of the wood, but under the bark of the stock. The union can only take place after the sap has began to circulate in the stock, which is when the buds are bursting. The clay or composition is applied to exclude the drying influence of the air and sun, and also rain, from the wouud until a complete union has taken place. The graft does not become injured by being somewhat shrivelled before it is inserted; but if it appears too much so it may be buried a few hours in moist earth before it is used. The compositions used as substitutes for clay are many. A good one is one part tallow, two parts beeswax, and four parts resin, melted and incorporated like shoemaker's wax. If the weather is cold this will require to be softened by immersing it a time in warm water. A thin layer of this, covering the end of the stock and the slit, will suffice. With the addition of a little more tallow, the composition may be spread upon linen or cotton cloth, when warm, and the cloth cut to the required size for a graft, and applied with less trouble in the form of a prepared plaster. The different processes of grafting are so generally known that we need not detail them; our object being only to throw out such suggestions as may tend to render the success of the operation more certain.

PART III.

MISCELLANEOUS INTELLIGENCE.

Extraordinary Production—A full crop and a crop extra.—By the following mode of cultivation, the Rev. Jacob Whetstone of Autauga county, raised from one acre on his farm, near rocky Mount, more than one hundred bushels of corn. The ground was prepared by ploughing deep and manuring well with stable manure, and planted on the 1st of March, in drills six feet apart; as soon as the growth would admit of it, the corn was thinned, leaving a space of twelve inches between each stalk, which were separately manured with cotton seed, and then worked in the usual way, until the 28th of May, when a second crop was planted in the centre furrows, between the drills in which had been deposited a large quantity of stable manure, and worked in the same manner as the first.

On the 1st of August, 69 bushels were gathered from the crop first planted, on the 1st of October 31 bushels 8 quarts, were gathered from the last, making in all 100 bushels and 8 quarts, the extraordinary production of a single acre in South Alabama.—*Ala. Jour.*

Grubbing Plough.—In the last number of the Farmer, a subscriber inquires, "whether or not there is such an instrument now in *successful* use, among farmers, as the grubbing plough." This is an implement of husbandry I have never seen, therefore the object of the present communication is not to recommend any new invention of the kind, but to inform your correspondent of the manner in which I cleared a piece of ground which was grown up in bushes and undergrowth of various sizes from 3 to 10 feet high: it was with a pair of oxen and a chain of ten to twelve feet long, with one end attached to the yoke, and forming a noose with the other around as many of the sprouts as could be encompassed by it, which when thus made fast, they drew out by the roots with great ease; it was in the spring while the ground was yet loose: it is probable the operation would not be so easy when the ground is dry and hard. Two active boys of fifteen years of age, will clear more ground in this way, than ten men will grub out in the ordinary method with mattocks.—*Am. Far.*

Timber more Durable with the top end downwards.—Our correspondent Daniel Longstregth, in a letter to us says, that he has lately been informed by a miller in that neighbourhood, that penstock and other timbers exposed to wet or dampness near the water-wheel, are placed by the mill-wrights with the top end downwards, they are found to be more durable than when erected in a different position. We hope that observations with regard to this matter may be multiplied; and that the difference in value between the two methods may be more accurately determined.—*Gen. Far.*

On the preservation of Trees gnawed by Mice.—Two years ago we had a brown Beurre Pear Tree which stood in a snow-drift, and the mice gnawed off all the bark round it more than six inches in length. Some time in the spring with a half inch chissel, we cut three grooves, equi-distant, extending from the bark above, downward, into the bark below, near the roots; and accurately fitted in three strips, which we took from the limb of another pear tree. All the strips grew fast at the upper ends, but only one at both ends However it has saved the tree.

We tried a similar experiment on an apple tree many years ago which proved unsuccessful; but no grafting wax was then applied as it was in the other case. We are now satisfied, however, that our treatment of the pear tree might have been more skillful. The ends of the strips ought to reach within the bark both above and below, not less than an inch; and particular care should be taken "that the line of separation of the wood and the bark should in both stock and [strip] be accurately adjusted." We apprehend that owing to some neglect of this kind, the lower ends of the *two* strips were not united.—*Gen. Farmer.*

Cuttings of the Vine.—Mr. D. Phelan recommends cuttings to be taken from near the bottom of the vine rather than from the top. The eyes should be round and plump, and the joints short.—*N. Y. Far.*

Means of rendering the Vine more productive.—A foreign journal, of some ability, recommends four ounces of alum to be mixed with four pellets of clay, by means of a sufficient quantity of water, and the roots of the vine being uncovered on a fine day towards the end of the winter, they are to be moistened with this mixture, and the earth then changed, so that what was previously uppermost shall be undermost. It is asserted that through this operation a vine produces a great additional quantity of grapes.

Gapes in Chickens.—One of our subscribers informs us that a drop of the spirits of turpentine, put in the mouth of a chicken, from the point of a feather or otherwise, will cure the gapes in chickens. Another says, that mixing *salt* with their food will prevent them taking the gapes.—*Ohio Far.*

Foddering Cattle.—It is important to make the most of your materials for foddering. Corn butts and straw, which are often thrown away, with a little pains may be made useful as fodder, by being cut with a straw cutter, mixed with a little cut hay or corn, and the mixture sprinkled with a pretty strong solution of salt and water. "There is a remarkable difference" (according to Lisle, an English writer on husbandry) "in cattle's eating straw when fresh thrashed, and when it has been thrashed several days, especially if the straw is indifferent fodder."

The Melons of Bokhara.—Capt. Burnes, in forwarding to the Horticultural Society some seeds of the celebrated melon of Bokhara, observes:—

"From the melons of India we can form no idea of the luscious nature of the fruit as it grows in the plains of Toorkistan, or, as we call it, Tartary. This melon attains a great size, having frequently a circumference of two and a half and three feet—those which are reared in winter are much larger, and two of them form a load for a donkey! One has a notion that that which is large cannot be delicate, but no fruit in the world can suppass the melon of Bokhara. Those of India, Cabool, and Persia, not even excepting the well known fruit of Ispahan, do not bear any comparison with it. The pulp of the Bokhara melon is about two inches and a half thick, and retains its flavour to the skin, which is the criterion of superiority with the inhabitants. So great a quantity of saccharine matter is contained in the melons of Bokhara, that molasses, and consequently sugar, may be readily extracted from them.—*Asiatic Jour*

Twice Plouging.—Mr. Tucker—I am much of opinion that your correspondent, the Monroe Farmer, is mistaken in recommending twice ploughing. I am persuaded that once, or three times, is much better. By ploughing once we turn under all vegetable matter which is slowly resolved into the food of plants—the second ploughing brings this to the surface where it is soon evaporated or carried away by winds—a third ploughing, after a thorough harrowing, and as speedily after the second as may be, is obviously calculated to retain this fertilizing matter. RATIO.—*Gen. Far.*

FAREWELL ADDRESS OF THE EDITOR.

With the present number, we close our Editorial career, and retire once more into private life. This resolution has not been the offspring of the moment, but for sometime contemplated by us, and in carrying it into effect, we only perform that, which our other duties render necessary

It is now seven years since first we commenced the task of Editing this work, and having brought it into existence, and conducted it thus far, we cannot part with it, and dissolve all our relationship with its readers without regret. We have withdrawn from all agricultural pursuits, and it is more than probable, we shall never again resume the task which we now abandon. Other pursuits claim our attention, and our health requires that we should cease to labour at the desk. But we cannot thus sever the ties which have bound us together, as Editor and Reader, without feelings of melancholy regret, which is heightened, when we think that in now bidding you farewell, we bid you farewell forever. During the period we have laboured in this vocation, we have formed many valuable acquaintances: with some, we have become personally intimate, but with many, our intercourse has been but by letter, and yet, not the less familiar, for being personally unknown to each other. Wherever we have travelled in these States, we have found acquaintances, who have known us as Editor of this work, and who have most cheerfully extended to us all the hospitalities for which these Southern States have become so well and so justly celebrated. Wherever we have gone, we have had every facility extended to us for inspecting the agricultural operations of that particular section of country, and even the minor operations of plantations have not been hid from us. Our object in all our agricultural excursions has been, to gain information, that might be useful to our readers, and the planters of the South generally. Our motive appeared to be justly appreciated, and we have ever met with the greatest politeness and hospitality, whilst nothing which was thought worthy, was withheld from us, even when the practices were admitted, not to be such as they might or ought to be. Nor has this been all. No sooner had it become known that we contemplated making such excursions, as frequently as other circumstances admitted, than invitation after invitation was proffered to us, and it would take us many years to accept of all we now have on hand, devoting the time we usually allotted to them, and others have more recently been extended to us.

And now we part: but permit us at parting to point out a few of the defects, which appear most prominent to us, and to suggest a few improvements. n alwe have to say, we must be brief, for neither space nor time will allow us more than merely to notice them.

The subject of Rotation of Crops and Manures—should command your serious attention. Without referring to the mooted point of what is the cause, or entering in the least into the discussion, it is sufficient for us to know, that any vegetable grown long on the same soil deteriorates, even when the ground is annually manured, unless the manure used, possesses the peculiar nutriment

fitted for it, and so true is this admitted to be, that it is acted on even by the market gardeners near London, where rents are enormous, and manures made free use of. It is stated, moreover, on high authority, that it is a practice with them to lay down a part of their grounds in grasses, finding that the rotation of garden vegetables is not sufficient, and that by pursuing this course, their profits are increased.

If then it be so necessary, where manures are used to such an extent, as would astonish us in this country, how much more necessary must it be where so little is used, and where the supply is so limited. Rotation of crops, is in some measure, a substitute for manuring, and it is well known, that after plants of a certain class, have exhausted the soil of all nutriment which will support them, other plants will grow most luxuriantly on it, and be for sometime very productive. These, in turn, exhaust the soil of their peculiar food, and have to yield their places to others. And such is the course pointed out by nature throughout the vegetable world, whether it be in the forest or in prairie, the cultivated or uncultivated land.

But a rotation of crops can seldom, if ever, be substituted for manuring, and should never be considered in that light, for although each plant may have a certain specific food, without which it cannot thrive, and which it may obtain by a change of soil, and which is not necessary for the healthy growth of other plants, which are to succeed, yet there are certain elementary constituents necessary for *all* plants, and which are required by all and consumed by all, and which can only be supplied by the annual decay of the vegetables which grow on the soil, or by manures. Where the operation is left to nature, the first takes place, but when man interferes, the second must be resorted to. The object, however, of manuring should not be merely to keep the soil at its pristine fertility, but to improve and make it more productive. To effect this, care should be taken that a greater quantity is added to a field than is taken from it. Nor should it be a matter of indifference what manure is carried into particular fields, for while some manures would be exceedingly beneficial in one field, they might be inoperative or the very reverse in another. Nor is it always necessary that the manure should contain either vegetable or animal substances. To a stiff clay soil, the addition of pure sand very often proves highly beneficial, and clayey is the proper corrective of a light soil. Wood ashes, lime and marl, are most excellent manures when properly applied. But of all manures, that which is obtained from the stable and farm-yard, is the most beneficial, and consequently most to be prized. The greatest attention, therefore, should be paid to the collecting and augmenting of it. We need not here enter more fully into this branch of our subject. Our readers need only to refer to the back volumes of this journal for all information necessary. The subject is undergoing investigation daily, and as these investigations shall bring to light new discoveries, they will be given in the *succeeding numbers* of this work.

The next subject we call your attention to, is the care of your *Live Stock*. It is all important to a planter, that he should have an ample supply of manure: with it he goes on to realize a fortune, and without it, he will at best, but remain stationary. How many planters have been ruined, and how many are there, who scarce make their income and expenditures meet: In many cases this is more owing to a neglect of collecting and applying manures, than any

"capacity of the land" !!

other cause. Content with what the natural fertility of the soil yields the production of their fields become less in each succeeding year, and instead of supplying the waste which takes place, by the application of manures, they, in many cases, emigrate to the "far West," leaving all the comforts of civilization, and tearing asunder all the tender ties of early life. Others are content to drag on thus, provided they can but live; when it would require but little exertion on their part, to place them in comfortable, if not affluent circumstances.

A proper attention to the stock of the plantation, (for all have more or less) would go far to relieve the embarrasments of the planter, in this respect. Let his horses and cattle, his sheep and hogs, be properly attended to; let them be taken care of, during winter, and have their pens well littered, and he will be amply repaid by the quantity of manure he will have in the spring, to enrich those spots which are poorest. But even apart from the additional quantity of manure which would be made by proper attention, the many comforts yielded by a well kept stock of cattle, sheep and hogs, are sufficient inducements of themselves, to cause us to pay more attention to them than we do. Instead, therefore, of permitting them to roam at large during the winter, and losing a large number annually in the bogs of the swamps, let them be housed, fed, and well littered. Let no one say that this cannot be done, or only accomplished on a small scale. The success which has attended Dr. H. Ravenel, refutes this opinion. His stock is large, they are all housed and fed during the winter, and this is done by him, on three separate plantations, on each of which, the number of cattle, sheep and hogs, are considerable: nor does Dr. Ravenel possess any facility for feeding them, not within the reach of all planters; but he is provident, and his cattle fare well.

Another point to which we would call your attention, is the *want of system* on most of our plantations. It is but too common for all the operations of the plantation to be performed, as it were on the spur of the moment, and not with that order and regularity which should always govern. Were our plantations under a more systematic arrangement, the labourers divided and properly apportioned to the various works suited to their strength or ability;—the crops properly equalized as to quantity, so that neither may predominate to the injury of the rest; a strict accountability enforced, both from the overseer or manager, and from each driver or head of a gang; our planters would have far less trouble in the management of their plantations, and their profits, without doubt, be much increased. In order to facilitate these operations, as well as for reference, regular books should be kept, in which all the transactions of the plantation should be entered. As an example of what can be accomplished, we refer our readers to the account of "Hopeton," (the residence of J. Hamilton Couper, Esq.) given by us in the 6th volume of this journal, page 333. This place is well worthy of the attention of all of our planters, more especially the young. It is certainly one of the best conducted plantations in the Southern States, and we have, as yet, met with none as well managed, either here or at the North.

And we would here suggest to our planters, (especially the young,) the propriety of annually appropriating some small portion of their time to making agricultural excursions, and of extending them into distant districts, so as to observe the practices of those who dwell far from them. In all of these excursions, much would be gained. The various plans pursued by each, in the culture

of the same crops—the different modes of collecting and applying manures—the management of negroes—the division of labour among them—the various domestic improvements, together with the discussions which would arise from these topics, would impart new views, and afford a fund of information, highly useful to the tourist in particular, and if communicated for publication in this journal, would add much useful information to that which has already been collected in these volumes.

One other suggestion will we make, and it is one which we would wish to be taken into serious consideration. It is the appropriating a small portion of ground annually to the making of experiments in the culture of the various crops, now grown by us, as well as on such plants as it is desirable to introduce, either for use or ornament. With respect to those made on the crops now cultivated, but a very small share of extra attention would be requisite. It would be best, in most cases, to make the experiment in the field where the crop is growing, and where a fair comparison can be made, between that experimented on, and the crop cultivated in the usual mode.

In making these experiments, care should be taken to notice all the accompanying circumstances, and notes should be taken throughout, of all the changes, accompanied with remarks as to the supposed causes of these changes, and at the close of the experiment the greatest accuracy should be observed in ascertaining the result. It should not be left to be guessed at, as is unfortunately, but too frequently done. In a small experiment, a few ounces will make a very large difference in the result of an acre, and how much more in a field of several hundred acres, yet this small variation would not, in all probability, be perceptible to the eye. An experiment, therefore, should not be abandoned, or thought littte of, because to the eye, no striking results are apparent; but be carried out to its conclusion, and then adjudged according to its merits. Nor should one experiment cause us either to adopt or abandon any theory we may have taken up. The season, the time of commencing, the soil, and various other causes, may make a considerable difference in the result of different years. Three years at least should be allotted to each experiment before a final adjudication as to its merits should take place, and it be acted on. Nor should we abandon an experiment because it does not succed on one kind of soil. What may prove a failure on sandy land, may succeed admirably on one of a clayey texture, and *vice versa*. No experiment should be undertaken until well digested, but when undertaken, should be persevered in, until the precise result is satisfactorily ascertained. We need scarcely say that all of these experiments should be recorded and the records carefully preserved.

But, with the greatest industry and perseverance, a planter can make but comparatively few experiments in the course of his life, whilst in every department, so much remains yet to be ascertained and settled. In many, we are compelled to follow the tracks pursued by our ancestors, without knowing whether they are correct or not, and whether a small variation would not produce more happy results. Hence arises the necessity of a more united action among the Agriculturists, and hence, the benefit which arises from giving publicity to all experiments made. In former years, did a planter make a discovery, or an experiment which he thought might be useful to his

brother planters, or wish to communicate his practice, (and in which he may have been eminently successful,) he was obliged to publish it at his own cost in pamphlet form, or insert it in the papers of the day, crowded among political and other news, and where it was seldom noticed, and could never be referred to, unless taken care of at the moment. This was discouraging, and consequently, but few agricultural communications were ever made. How different is the state of affairs now, both in Europe and in America, but more especially in the latter. In the United States, there are no less than eleven or twelve journals devoted almost exclusively to Agriculture and Horticulture, and numbers of others of a miscellaneous character, in which these subjects regularly occupy a conspicuous place.

The Agriculturist and Horticulturist, will not therefore, hereafter, have any excuse for their ignorance, for in these journals are collected, the opinions, the experiments, the practices and experience of many of our most valued and experienced planters, and in these journals the young, have a fund of information, to commence with, which those of the present day had not, and they consequently will start with advantages almost incalculable, they will commence at that point where the experience of the present day terminates, and which but for these journals, would have yet remained in obscurity.

But are not those who now occupy the field, and those who are to succeed, bound to continue a practice, by which so much good has already resulted, and which bids fair to be productive of so much more? We hesitate not in saying they are. Sheer justice would require it of them. Have they not received much from the rich stores of experience of others, and shall they profit by it, and not in return add somewhat to the fund from which they have benefited so freely and so much. But this would not be all, for in so doing, they would not only be contributing their share, but setting a praiseworthy example to others which if followed generally, would be productive of the happiest results.

And now planters of the South we turn to you. Have you no experiments to make, no experience to commmunicate. The whole world is in motion, and the march is onward. Will you be content to slumber on in inactivity, to pursue the old and beaten course because your fathers did so before you? Will you remain in ignorance while the rest of the world are becoming enlightened, or at most remain stationary, whilst they advance? Surely not. Investigate then for yourself, and communicate the result of your investigations. There are peculiarities in the climate, soil, and crops of the South, that require this of you, and will amply repay all your trouble and your care. The theories and experiments of the phisiologists of more Northern regions, will aid you in your pursuits; but still there is much which is yet obscure, in that which is common to both climes. The field is yet open for research, and more especially does the South claim your attention. Science has as yet scarcely deigned to cast her eyes on this region of the world, to investigate the peculiarities of our climate, and the action which is exerted by it on all the various operations of husbandry. Be this then your care, and your field of labour.

But let not the plain and honest farmer who makes no pretence to scientific acquirements, think that he has nought to do—he may and can aid most mate-

rially in improving the agriculture of his native State, let him make his experiments, let him record them carefully, and communicate them, together with his opinions and experience, for the benefit of all. And thus, whilst those whose acquirements enable them to enter into scientific research, and to point out the laws of nature which govern, he will, by his experiments, either confirm or confute the theories laid down, and thus by producing a more correct knowledge, enable those in search of truth to draw juster inferences, and proceed in their agricultural pursuits with a more correct knowledge of what ought to be done and what avoided.

And now, Readers of the Agriculturist, farewell:—our task is done, and we now retire from a pursuit which has always afforded us pleasure, and again sink back to our former privacy. To the Agriculturists of the South, we feel under peculiar obligations, for the kind support and indulgence they have extended towards us, and we hope ever to remember them with gratitude. Years will roll on, and we shall soon be forgotton by most of you, but often shall we recur to these years, with feelings of unmingled pleasure, and our only regret will be that our connexion has been so short.

And now, once more, we bid you a long, a last *farewell.*

JOHN D. LEGARÉ.

Charleston, December 1*st*, 1834.

INDEX TO THE SEVENTH VOLUME.

A.

PAGE.

Acid, Oxalic, effect of, in stimulating vegetable life, ... 652
Addresses, Agricultural, by H. Colman, 139, 198; by the President of the New-York State Agricultural Society, 241, 303; by J. Jenkins Mikell, 337; by Robert W. Roper, ... 505, 561
Address, Horticultural, by Dr. H. R. Frost, ... 303, 449
Address, farewell, by the Editor, ... 659
Agricola, observations on the present condition of the Southern States 287
Agriculture, exact and experimental, observations on, 49, 323; great exactness recommended, 50; advantages of, 51; application of steam to, ... 501
Agricultural Society, officers of, ... 501
" Terms, explanation of, ... 469
Almonds, American, soft shelled, ... 110
Amicus, on curing pea vines for stock, ... 634
Animals, domestic, treatment of, 111; period of gestation, ... 223
Apples, curiously grafted, account of, 56; new mode of propagating, 167; useful for feeding animals, 445; trees, old, resuscitating, . 221
Artichoke, useful properties of, in curing rheumatism, ... 101
" Jerusalem, great yield of, 218; recommended for feeding cattle, 218
Ashes, applied to Pear trees, beneficial effect of, 55; excellent as a manure, ... 392
" Sea, recommended as manure, 129; mode of obtaining, 130; suggestions relative to the use of, 183; may readily be obtained from salt marsh, ... 184
" Dutch, great value of as manure, 185; analysis of, 187; uses of as manure, 337; advantages of using, ... 329
Asparagus, new mode of rearing, 47; propagation and culture, 598; forcing, ... 647

B.

B, on the management of horses whilst travelling, ... 295
" account of silk, by, 498; on hay making, ... 517
B. C. on the culture of pumkins, ... 326
B. J., experiments and observations, by, on the fermentation of manure, 27
B. W. W., on the toping and leafing of the grape vine, 319; notice by, of several American varieties of grapes, ... 545
B. R. H., on the cultivation of Peach Trees, ... 275
Bacon, to preserve from bugs and worms, 111, 222, 392, 616; result of several experiments in, preserving from skippers, ... 491
Barley and hops, ... 303
Bat, usefully employed, ... 280
Bee house, construction of, ... 168
" moth, account of, ... 300
Bees, operations of, in garrets, 46, 546; management of, 227; mode of hunting, account of, ... 334
Beef and Pork, pickle for, 222; tainted to restore, ... 391
Beets, process of manufacturing sugar from, in France, ... 281
Birds, notice relative to the protection of, ... 224
Books, to preserve, ... 560
Bots, account of and experiments on, ... 554
Breeding of Cattle, principles of, ... 487
Brimstone, preserve cattle from vermin, ... 391
Bruce, James C., on horizontal trenching, ... 94

PAGE.
Bugs, to preserve vines from, 503; bed, to keep off or drive away, 503
Buildings, painting of, ... 278
Butter, preserving of, 112; remarks on, 142; restoring to its original sweetness, 167; receipt for preserving, 278; producing quickly, 222, 560; old rendering sweet, 614; winter management of, .. 616

C.

C., on the Egyptian Oat, ... 628
C. H., on the management of negroes, ... 367
Cæsar's and Sampson's cure for the bite of rattle snakes, .. 237, 301
Calves, management of, 166; breeding and rearing of, ... 263, 353
Cane, Sugar; Violet, culture of, as food for cattle, recommended, 15 properties of, 16; culture of, in Louisiana, 88; order in which the different varieties are injured by frost, 93; harvesting, 94; yield, 94; improvements suggested in the culture of, in Louisiana, 147; culture of, in Georgia and Florida, 151; remarks and suggestions in relation to the planting of, in Georgia and Florida, 152; cutting down, or *wind rowing*, importance of, 542; account of, . 542
" juice, chemical history of, 207; free acids and salts in, .. 249
" mill, description of, ... 312
Capers, account of, ... 111
Capers, Dr. Charles W. remarks by, on the origin and introduction of Whitney's Saw Gins into the Southern States, ... 70
Carolina, South, account of the introduction of rice into, 513; of indigo, 514; plants which might be cultivated in, 563; notice of several valuable trees, shrubs and plants, which might be introduced into, 569, 629; agriculture of, how to be improved, ... 556
Carolinian, on the introduction of exotics, ... 629
Cattle, soiling, advantages of, 370; brimstone, useful in destroying vermin on, 391; great herds of, 392; Devon, account of, 486; breeding of, 486; best breeds should be obtained, 549; economy in feeding, 610, 611; foddering, ... 658
Catterpillars, *Cotton* experiments on, 133; driven from trees by sulphur, ... 435
Charcoal, from different woods, heat evolved by, ... 606
Cheese, milk for, advantages of salting, 222; process of making, 321
Chelsea, culture of locusts on old fields, recommended by, ... 228
Chickens, gapes in, cure for, ... 658
Cholera, in a new form, among animals, ... 279
Cichorum Intybus, notice of 529
Climate, influence of, on vegetation, ... 83
Clover, crimson, advantages of sowing. 614
Coffee, useful in disinfecting rooms, 503; introduction of, into the West Indies, 515; production and consumption of, throughout the world, ... 516
Coal, relative value of several kinds, ... 609
Colts, management of, 102; breaking, ... 431
Collummela, on the culture of Cichorum Intibus, ... 529
Colman, Henry, observations by, on exact and experimental agriculture, 49, 323; Agricultural address, by, ... 198
Composts, formation of, 477; new, for flower pots, ... 499
Conductors, lightning, proper mode of affixing, ... 390
Cotton, *Sea Island*, comparative advantages of cultivating fine and superfine, 8; premium for new plan of preparing for market, 110; culture of, 232; *Upland*, culture of, near Vicksburg, Miss. 20; advantages of planting the Gulph seed, 21; culture of, 154; rot in, supposed cause, 219; injurious effects of overplanting, 290; use of in dressing burns and wounds, 156; quantity spun in Great Britain, 557; imports of into Great Britain, ... 557

PAGE.

Cotton seed oil, manufacture of, ... 106
" " value of, as manure, ... 172
Corn, race for $1000, proposed, 53; crop, culture of, 81, 113, 169 170, 214, 233, 252: seed, protecting from birds, 127; manuring with mud and cotton seed, 169; result of different modes of planting, 216; suckering, experiments on, 333; rule for ascertaining the quantity of shelled, in houses of any given dimensions, 235, 446; Shucking, description of, and loss occasioned by, 347: protecting from weevels by myrtle bushes 349; preservation of, with salt, 390; extraordinary product of, 657; stocks ploughing in, the cheapest mode of using them for manure, ... 476
" field diagram of showing the drains. 120
Couper. J. Hamilton, on rotation of crops, 157: account by, of the alluvial lands of the Mississippi and Red river, 620; analysis of the soil from the Red river, by. 625
Cows, useful instructions in regard to milking, 166; should have separate pastures, 221; account of a valuable one, 227: a prolific one, 392; Chinese account of, ... 448
" tree, account of, ... 453
Cream, effects of vinegar in converting into butter, ... 560
Crops, essay on the rotation of, 157; rotation proper for the Southern States, 5, 57; apportionment to be observed, ... 403
Crows, how to catch, ... 112
Croup, simple remedy for, ... 588
Culture, new articles of, ... 305
Currant bushes, ornamental description of, ... 436

D.

D, memorandum by, of tasks for labourers, ... 297
D. Q. E. continuation of his remarks on reclaiming marsh land, with an account of the preparation and product of, in rice, the first year, 131
Dahlias, notice of, ... 56
Devon cattle, account of, ... 486
Diary, utility of, to farmers, ... 261
Drains, formation of, ... 272, 331, 386
Draining, advantages of, 246, 269, 330, 384; plans for, proposed, 384
" and cultivating low grounds, ... 425
Ducks and turkies, raising of, ... 587
Dung, application of, in hills, injudicious, ... 224

E.

Editor, Farewell Address, by, ... 659
Ellison, Mr., on collecting seeds of Gama Grass, for distribution and its value as food for cattle, ... 122
Embankment of a part of the Santee Swamp, ... 293
Embankment, location and formation of, 355; protection and repairs of, 617
Eve, Joseph, on the construction of Roads in the Southern States, 190
Exotic, on the raising of Silkworms, 25; on the use of Rice, 400; remarks by, on, and an account of some experiments on cotton catterpillars 133
Exotics, list of, suitable for South-Carolina, ... 569, 629
Experiments, making of, recommended, ... 323, 662

F.

Farmer, A, queries by, relative to Lupinella, 464; on Free Schools, 590
Farms, arable, improvement of, 143, 198; proper size of, 201, management of, 202; division of labour on, ... 304
" Implements of, improvement of 245
Farriery, curious case of, ... 447
Film, in the eye of a horse or ox, cure for, ... 277
Fish transferring from salt to fresh water, ... 445

PAGE.
Fisk, O., on planting fruit treets, ... 485
Fistula, cure for, ... 18
Florida, notice of the climate, soil and productions of, by H. Y. Z. 23
Flowers, large, account and description of, ... 439
Fowls, feeding of in winter, to increase their laying, 54: term of incubation, 223; saving for breed, ... 285
Food chopped, economy of, 559; raw and cooked, comparative advantages of feeding stock with, ... 644
Frogs, recommended for curing fistulas, ... 18
Frost, Dr. H. R., Horticultural Address, by, ... 303, 449
Fruit, preparation of molasses for preserving 56
" grafted, influence of the stock on, 156; protection of from depredators, 389; list of those worthy of culture, 423; injured by wasps, 589
Fuel, economy of, 605; heat evolved by, different kinds, ... 606
Furnace for manufacturing sugar, description of, ... 315

G.

Gall, ox, preparation of, for removing spots 448
Gangrene, cure for, ... 446
Gaps, Water, to make secure, ... 78
Gardens, Flower, in the vicinity of Charleston, account of, ... 440
" Fruit, arrangement of trees in, ... 110
Gass Spirit, notice of, ... 531
Gestation, period of, in different animals, ... 223
Gins, Whitney's Saw, remarks on their origin and introduction into the Southern States, ... 70
Grafting and innoculating, directions for, ... 425, 655
Grain, loss of by wind, 277; shrivelling, ... 277
Grapes, low training of prevents mildew, 54; quickest way of procuring, 167; observations on the culture of, 458; Devereux, account of, 459; American, notice of several varieties of, ... 545
Grasses, *Leersia oryzoides*, (a new and valuable native) remarks on, 12, 526; culture of, strongly recommended, 527; *native*, remarks on, 14, 520; *Gama*, collecting the seeds of, 122, value of, for feeding cattle, 124; account of, 220; observations on the culture of, 524; *Feliciana*, account of, 502; *Patridge Pea*, Guinea corn, Red clover, 521; *Salt marsh*, Guinea grass, Crop or Crab grass, 522; *Egyptian millet*, ... 523
Grounds, Low, draining and cultivating, ... 428
Gum, elastic, a cure for Rheumatism, ... 101, 279

H.

Hammon, Lawton, jun., on Bees,
Harper, P. P., draining and cultivating of low ground, ... 428
Hay, proper time for cutting, 374; management of, 372; salting, injurious, 375; economical mode of using, 377; memoranda relative to, 517; cutting of, for feeding, economy of, ... 604
Hayward, James, on the uselessness of earthing up potatoes, 98; preparation for watering peach trees, ... 100
Herbemont, N., notice by, of the Leersia oryzoides, 12; on sea ashes as a manure, 129; suggestions by, relative to the use of ashes of salt marsh as manure, ... 183
Highlander, A., cure for the fistula, by, 18; on the selection of soils for a vineyard, ... 477
Hogs, to fatten, 501, 550, 595; importance of selecting the best breeds of, 549; various notices of, ... 550
Hops, generally badly cured, 304; directions for curing, ... 446
Houses, Farm, planting orchards around, ... 558
" Poultry, construction of, ... 492

PAGE.
Housewives, hints to, ... 503
Horizontal trenching, effect of, in preventing the washing of hilly lands, 94; mode of proceeding in, ... 96
Horses, to prevent breaking their bridles, 55; should have separate pastures, 221; eye examination of, 224; film in the eye of, cure for, 277: management of whilst traveling, 295; diseases of, 334; pulsation of, ib.; curious case of farriery, 447; care of, ... 559
Hydrophobia, certain cure for, ... 278

I. & J.

Jenkins, Joseph E. on the culture of corn, ... 113, 159
Incubation of different fowls, term of, ... 223
India Rubbia, rheumatism cured, by, 279; tree, ... 453
Indigo, process of manufacturing in small quantities, 463; introduction of, into South-Carolina, ... 514
Insects, sounds made by, ... 559

K.

Knight, T. A., on the culture of the Irish potato, ... 643

L.

L., on the use of scoops in removing water out of rice fields, ... 225
L. D. on the culture of the Jerusalem Artichoke, ... 217
L. J. on the stirring the earth, a relief against drought, ... 263
Labourers, apportioning work among, ... 407
Lacy, Allen T., on the management of colts, ... 102
Lands, arable, improving of, 143, 198: stirring, relief against drought, 263; exhaustion, cause of, 339; how remedied, 340: manuring, 343
" hilly, remarks on the several plans used to prevent the washing of, 536; alluvial of the Mississippi and Red rives, account and analysis of, ... 620
Lambs, cause of their loss and remedy for, 280; early rearing of, 422
Leaves, large, account of, ... 438
Lemon tree, remarkable one, ... 392
Life, animal, duration of, ... 280
Lightning conductors, proper mode of affixing, ... 390
Lime, beneficial effect of, as manure for wheat, ... 353
Livingston, on the culture of peas, ... 600
Locust, culture on old fields recommended, ... 228
Locust, American, notice of, ... 583
Logan, William, on the culture of the tanier, ... 229
Lupinella, query, relative to, ... 464
Lux, on Spirit Gass, ... 531

M.

Manures, experiments and observations on the formation of, 27; inference from experiments on, 38; application of, 112; economy and application of, 422; humic acid, 417; increasing and fermenting, 419
" Marine, on the use of, 301; sea-weed, great effect produced by, 364
" Compost, formation of, 477; new compost for flower pots, 499
Manuring, scientific principles of, ... 418
Maple Sugar, extracting the juice from, without injuring the trees, 279
Meares, William B., account by, of the Gama Grass, ... 220
Melons, culture of, 254; of Bokhara, account of, ... 656
Mikell, J. Jenkins, Agricultural Address, by, ... 337
Mill, Rice, at South-Boston, notice of, ... 54
Milk, cream from, increased, 110; for cheese, should be salted, . 222

PAGE.

Mississippi and Red Rivers, account of the alluvial lands of, 620; analysis of, ... 622, 625
Mitchell, John, jun. on the use of Dutch Ashes as manure, ... 327
Molasses, preparation of, for preserving fruit, ... 56
Mortar, French method of making, ... 503
Mud, Marsh, as manure, 365; effect of on vegetation, ... 587
Mulberry, Chinese, superiority over the common, for silk, ... 105
Murray, J., on the effect of terrestial radiation on the process of vegetation, and account of the Chinese mode of propagating fruit trees, 258
Murray, William M., rule for ascertaining the quantity of corn in a house, 235
Myrick, Jordon, obituary of, ... 636
Myrtle, Candleberry, remedy against depredations of weevils, .. 349

N.

N, on the culture of Cotton, ... 232
N. C. F., on the several plans used to prevent the washing of hilly lands, 536
N., Mrs., on the manufacture of Indigo in small quantities, ... 463
Negroes, on the management of, ... 367
Newton, Willoughby, on the use of Marine Manures, ... 301

O.

Oats, skinless, account of, 167; extraordinary effect of sea weed on, 362; Egyptian, culture of, recommended, ... 628
Observer, on the protection and repairs of embankments, ... 617
Oil, novel effect on water, ... 336
" cotton seed, manufacture of, ... 106
Ointment, chilblains, Sir Astley Cooper, ... 111
Oleander, experiment with, ... 500
Onions, culture of, ... 483
Ontario, on the management of light soils, 109; on the importance of a diary to farmers, ... 261
Orchards, planting around farm houses, ... 559
Oxalis Crenata, extraordinary productiveness and culture of, ... 639
Oxen strained, cure for, ... 111
Oysters, inhabitants of, ... 501
Oyter shells, use of, as manure, ... 365

P.

P., on the flowering plants of Japan, ... 530
P. M. W., on the culture of cotton near Vicksburg, (Miss.) 20; account of a corn crop, by, ... 81
P. T. S., on the culture of melons, ... 254
Parker, Thomas, on the proper construction and fixing of water racks, 76; description by, of corn shucking, and the loss occasioned thereby, 347
Pea, garden, on the culture of, ... 600, 649
Pea Vines, curing for stock, ... 634
Peach Trees, preparation for watering, to prevent the droping of the young fruit, 100; culture of, 272; nuts, planting of, ... 485
Pear Trees, beneficial application of ashes to, ... 55
Phenakisticope, account of, ... 504
Pickle, Knickerbocker's, for beef and pork, ... 222
Pine, barren, curious account of, ... 390
Planter, A., on embankments and freshets, ... 352
" A Retired, reflections by, ... 402
Planters, Sea Island, cause of their general unsuccessfulness, .. 177
Plants, exotic, management of those from different climates, 85; effects of electricity on, 501; laying of, 278; luminous account of, 336; *air*, account of, 390; flowering of Japan, notice relative to, 530; excretory powers of, 556; number of described, 558; valuable, which

PAGE.

might be introduced into South-Carolina, 569; *new*, 614; propagation of, in water, ... 650
Plough grubbing, description of, ... 657
Ploughing, beneficial effects of, 322; twice, observations on, .. 658
Porcher, Major Samuel, account of his embankment of, part of the Santee swamp, ... 293
Posts, planted top end downwards, most durable, ... 222, 276, 657
Pork, directions for the cutting and curing of, ... 459
Potato, sweet, large one, notice of, ... 55
" Irish, on the culture of, 40, 643; philosophic method of cultivating, by T. A. Knight, Esq. 41, 643; uselessness of earthing up, 98; cooking, 277; preservation of, in Peru, ... 558
Poultry Houses, constructron of, ... 494
" Management of, ... 653
Power, animal proportion to manual in England and France, ... 613
Pumkins, on the culture of, ... 326
Pyramids of Egypt, amount of work in, ... 336

Q.

Q., method by, for protecting rice crops from birds, ... 409
Query, addressed to the Hon. W B. Seabrook, by S. 239
" in relation to Lupinella, 464; Rice Vine, ... 557

R.

R. H. C., on protecting seed-corn from the depredations of birds, 127
Racks, Water, on the construction and fixing of, ... 76
Rats, destroying, 389; destruction by, of the sugar cane in Jamaica, 447
Reed Sand, protecting the sea coast, by 633
Rheumatism, cure for, ... 101, 279
Rice, on newly reclaimed marsh-land, culture and product of, 31; uses of, 400; method of boiling, 401; protecting from birds, 409; introduction of, into South-Carolina, 513; wine from, query relative to, 557; wild, account of, ... 561
" Fields, embankments, protection of, 163; use of scoops in removing water from, ... 225
" Threshers, account of several, ... 579
Rivers, T jun. on the culture of roses, ... 45
Roads, proper construction of, in the Southern States, ... 190
Robinson, Abednego, directions by, for grafting and inoculating, 427
Roses, on the culture of, 45; to obtain large heads of, ... 448
Rotation of crops. (see crops)
Roper, Robert W., Agricultural Address, by, ... 505, 561
Ruta Baga and Mangle Wurtzle, culture of, ... 482
Rutger, on forking asparagus beds, ... 647
Rye and Wheat, harvesting of, ... 353

S.

S., query by, addressed to the Hon. W. B. Seabrook, ... 239
S J., on the culture of Ruta Baga and Mangle Wurtzle, ... 482
S. J. H., on ploughing in corn stalks, ... 476
Salsafy, account and culture of, ... 225
Salt, preservation of corn, by, ... 390
Sampson's cure of the bite of the Rattle Snake, ... 237
Sap, circulation of, ... 451
Schools, Free, improvement in, recommended, ... 590
Scions, proper times for cutting, 110; caution in procuring, 391; diseases propagated by, ... 391
Seabrook, Whitemarsh B. remarks by, on the comparative advantages of cultivating fine and superfine sea-island Cotton; on the causes of the general unsuccessfulness of the sea-island Planters,

PAGE.

Weeds, wonderful effect of, as manure, ... 362
s, temperature necessary for their germination, 83; annual flower, improvement in the mode of raising them, 224; electrified, rapid vegetation of, ... 614
p, remarks on the raising of, 142; poisoned, cure for, 502; number and value of, fed in England and Wales, 558; wintering of, 696; salting, ... 616
ard, C. U., analysis by, of soil from the Mississippi river, .. 622
en, Amos, on the economy of cutting hay for animals, ... 604
s, trees and plants, which might be introduced into South-Carolina, account of, ... 569
, simple apparatus for preparing and reeling the cocoons of, 54; spinner, Brook's patent, account of, 56; directions for reeling, twisting and preparing for market, 136; manufacturing, 496; account of, 498
Silkworms, raising of, in South-Carolina, 25; difficulties to be encountered, ... 26
Snake, Rattle, cure for the bite of, ... 237, 301
Smith, G. B., remarks by, on reeling, twisting and preparing silk for market. 136
Soap, reason for not always succeeding in making, ... 279
Soils, light, management of, 109; improvement of, ... 512
Soiling, origin and advantages of 370
Sore Throat, simple remedy for, ... 503
Sparks, Wm. H., on the culture of the violet cane, as food for cattle 15
Spirits, ardent, used in destroying rats, bears and crows, ... 389
Stains of Fruit, removing of, ... 280
States, Southern, observations on the present condition of, ... 287
Statistical 614
Steers and Colts, breaking of, ... 431
Stock, fine, raised in Louisiana, 17; importance of selecting the best breeds of, 549; comparative advantages of feeding on raw and cooked food, ... 644
Sugar, process of making in Louisiana, 311; in Georgia and Florida, 361; grinding of the canes, 311; evaporation, 356; granulation and potting, 359; explanation of the chemical agencies in manufacturing, ... 412
Sugar Cane. See *Cane*.
" Maple. See *Maple*.
" Beet. See *Beet*.
Sulphur in trees, experiments with, ... 221, 435

T.

T. G. I., on the culture of Irish potatoes, by. 40
Tannier, culture of, 229; account and history of 230
Tasks for labourers on plantations, memorandum of, ... 297
Tea Plant, notice of, ... 563
Teak Tree, notice of, ... 530
Terms, Agricultural, explanation of, ... 469
Threshers, Rice, account of several,, ... 579
Timber, proper time for cutting, ... 110, 280, 558
Tomatoes, use of, in quickening the action of the abdominal viscera, 161; preserving of, ... 221
Tools, care of, ... 615
Townsend, W. on the culture of Peas, ... 649
Transplanting, in the fall, recommended. 446
Trees, fruit, arrangement of, in a garden 111; sulphur in, experiments on, 221; Chinese mode of propagating, 260; account of those in Van Mon's nursery, 378; scions for grafting, caution in obtaining, 391; planting, 485; short directions for transplanting, 544, 602

PAGE.

Trees, notice of several, ... 557
" barked, how cured, 615; nawed by mice, preservation of, 657
" old apple, resuscitating. 221
" Shrubs and plants. valuable, that might be introduced into South Carolina 569
" Wax, account of, ... 614
" destroying in streets, impolicy of, ... 580
Tulips, mania and high prices, account of, ... 433
Turkies, young, treatment of, 168; and Ducks, raising of. 587
Turnips, *Dales* hybrid, splendid crop of. 278: culture of, recommended, 305; culture of, 478; Ruta Baga. 482
Tyro, on the management of Bees, 227: on the Bee moth 299

U & V.

Ulmus, on the management of Bees in garrets. 546
Van Mons, remarks by, relative to new varieties of fruit trees, .. 379
Vaughan, C. process used by, in the making of cheese, ... 321
Vegetables, benefit to be derived from frequently stirring the soil around, 336; origin and principles of the culture of, 465; supply of food artificially, 466; amelioration of, by climate and regulation of moisture, 466; regulation of light, 467; increasing the magnitude of, 467; preservation of, 467; varieties of, ... 613
Vegetable life, remarkable case, and its influence on several operations in horticulture and agriculture, 592; dormant experiment on, with oxalic acid, ... 652
Vegetation, influence of climate on. 83; temperature necessary for, 83; humidity, air and light, 84; effects of different shades on, 257; effects of terrestrial radiation on. 258; effects of marsh mud on, 587; at the north pole, ... 613
Vines, grape, to render more productive, 167, 658; topping and leafing injurious effects of, 319: flowering of, 502; planting of, recommended, 558; selecting of cuttings, ... 658
" to preserve from bugs, ... 503
" Pea, curing of, ... 634
Vineyards, selection of soils for, ... 457

W.

W. P. on the cultivation of Corn, ... 252
Walker, James, on breaking of steers and colts, ... 431
Wasps, injurious to fruits, ... 587
Wax, process of bleaching, ... 223
Weevils, depredations prevented, ... 349
Wheat, experiment on cutting before ripe, 277; new mode of raising, 284; harvesting, 333; new variety of, ... 446
Wood, snapping on the fire, how managed, ... 614
Wurdeman, Dr. F. account by, of the process of preparing beet sugar, 281

Z.

Z, on the Candleberry myrtle, as a remedy against the depredations of the Weevil, ... 349
Z, on the cutting up and curing of Pork, ... 459
Z A. on the management of hay, ... 372
Z. X. Y. notice by, of the climate, soil and production of Florida, 23

END OF THE SEVENTH VOLUME.

OCT

10

112791
2 of c
~~2 of c~~
84